

LUMINOSITY: CONCERTO FOR WIND ORCHESTRA
BY JOSEPH SCHWANTNER:
MUSICAL ANALYSIS AND CULTURAL CONTEXT

by

ANDREW DAVID CHYBOWSKI

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Doctoral Committee

Stephen W. Pratt, Research Director and Chair

J. Peter Burkholder

Eric M. Smedley

David C. Woodley

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Abstract

***Luminosity: Concerto for Wind Orchestra* by Joseph Schwantner Musical Analysis and Cultural Context**

Joseph Schwantner's works for winds, brass, and percussion form a unique contribution to wind repertoire. The five compositions written between 1977 and 2014 make extensive use of twentieth-century compositional techniques in a context that resonates with listeners on an emotional level. The early poetry-inspired compositions ... *and the mountains rising nowhere* (1977), *From a Dark Millennium* (1980), and *In evening's stillness...* (1996) are a departure from the exclusively atonal works he had written previously. ...*and the mountains rising nowhere* was Schwantner's first major composition to blend tonal and atonal procedures in an effort to achieve a more expressive style. His later works for winds, *Recoil: for Wind Ensemble* (2004) and *Luminosity: Concerto for Wind Orchestra* (2014), represent a move towards a more efficient use of musical materials. They still utilize atonal elements, but achieve a more tonal sound through techniques such as repetition, sustained bass notes, and carefully selected pitch class sets.

Luminosity, which Schwantner calls his most ambitious work for winds, is also his first multi-movement composition for the medium. Throughout the three movements, highly unified musical materials gradually generate short-term tonal goals. In turn, these intermediate goals progressively achieve clearer statements of the diatonic set-class, culminating in the ultimate goals of a major-mode recapitulation and a major triad. In this process, motivic development and interaction, orchestration development, and especially

developments of color and texture work together to advance the musical narrative. This process can be heard as a gradual clarification of tonal material, in a musical expression that is evocative to both the casual listener and the trained specialist.

Beginning with the solidification of Schwantner's mature style in *...and the mountains rising nowhere* and culminating with the exaltation of tonality in *Luminosity: Concerto for Wind Orchestra*, these five compositions represent a unique expression of twentieth- and twenty-first century American music. Within this body of works for winds, Schwantner has developed a sensual, intuitively comprehensible genre founded on procedural rigor and structural integration.

This doctoral project includes the biographical and compositional background of Joseph Schwantner, an outline of the analytical approach used for this document, a detailed analysis of *Luminosity*, and an overview of this work in the context of the four preceding wind compositions. In this document, I hope not only to support an artistic and informed performance of *Luminosity* but also to demonstrate it as a valuable contribution to wind band repertoire, and to modern American art music.

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Introduction

This document provides an illumination of some of the fundamental musical elements of Joseph Schwantner's *Luminosity: Concerto for Wind Orchestra* and contextualizes the work among his earlier compositions, particularly his works for winds. The exploration of this composition in the context of Schwantner's prior output marks *Luminosity*, and by extension, Schwantner's body of work, as both highly sophisticated and appealingly expressive additions to contemporary American musical culture. These qualities will be demonstrated through a discussion of Schwantner's background in contemporary compositional techniques, his consistent use of evocative sources of inspiration to focus his musical expression, and the importance of orchestrational color and texture in his compositions, particularly in *Luminosity*.

In order to provide a contextual understanding of the composition, the first two chapters highlight aspects of Joseph Schwantner's life and musical development as they apply to his mature compositional style. Chapter 1 describes how formative experiences in Schwantner's early life, formal education, and professional career contributed to his later musical perspective and identity. Chapter 2 demonstrates some of the effects of Schwantner's musical background and follows some trends of his compositional development by highlighting key elements of his style and reviewing some milestone compositions in his early career. Key features of Schwantner's mature style discussed in Chapter 2 include Schwantner's use of specific sources of inspiration to focus his compositions, his use of sophisticated techniques of tonal organization to express his sources of inspiration, and his focus on orchestrational color and texture.

The musical analysis seeks to provide an understanding of some of the underlying principles of *Luminosity* in order to allow the conductor to arrive at an individual creative interpretation that is musically informed. Chapter 3 describes the analytical approach used to support a performance-oriented understanding of the work, and how that approach results in a more comprehensive explanation of Schwantner's unique compositional style. Compositional elements in *Luminosity* that are particularly suited to such an approach are Schwantner's unique conception of sonata principle, and his almost continuous use of teleological genesis as an organizational strategy.

Chapter 4 demonstrates how this work enacts the compositional characteristics discussed in Chapter 2. Schwantner articulates the specific source of inspiration in each movement through the gradual development of tonal goals. Movements I and III gradually develop statements of a diatonic collection, focused on the pitch centers Eb and A respectively. These tonal goals combine scalar runs and tertian harmony in a statement of incandescent musical energy, culminating in a major triad. Movement II explores diatonic material in a continuum from energetic stasis to dynamic teleology. All musical elements and relationships described below can be understood in the context of these expressive goals.

Chapter 5 places *Luminosity* in the context of Schwantner's compositions for winds. This chapter highlights strands of development in this body of work that demonstrate a general trend towards a simpler aural landscape and an economy of musical materials.

Chapter 1: Biography

Joseph Schwantner's early musical experiences and influences form the foundation of his mature compositional style. His unique aural concept has been informed by his very early exposure to playing guitar and his later interest in free jazz. Schwantner's first compositional forays were imaginative, uninhibited, and supported by those around him. His earliest attempts amount to notated guitar improvisations, which were encouraged by his teacher. As a teenager, his musical interests led him to compose in an avant-garde, free-jazz style. One of these works was rewarded by a prize and a scholarship to study jazz and composition with renowned musicians and educators. Elements from all of these early experiences can be traced throughout his career, as will be described in Chapter 2.

Schwantner's creativity was given a powerful technical framework through his formal study as a composition student. In addition to receiving a strong background in the Western Classical tradition, Schwantner studied some of the most important twentieth-century compositional techniques at the American Conservatory in Chicago, and at Northwestern University. Despite the rigor of his academic study, Schwantner continued to focus on creative musical expression as a primary goal. The development of both compositional technique and a creative artistic voice led to professional success and opportunities early in his career. Schwantner's musical background as a youth, college student, and professional will be discussed in this chapter, followed by an exploration of the resulting development of his musical style in Chapter 2.

Joseph Clyde Schwantner was born on March 22, 1943 in Chicago, Illinois. While his parents did not have a strong musical background, they did nurture his early proclivity for music by providing lessons and supporting his musical endeavors. One of Schwantner's most important early musical influences was his guitar teacher Robert Stein. Schwantner began lessons with Stein at age seven, initially learning a folk guitar style and later focusing on classical repertoire. Even at this early age, Schwantner had a tendency to embellish the music he prepared for lessons. Sensing a creative impulse, Stein encouraged Schwantner to write down some of these ideas. Schwantner later recalled "what I thought was advancing my technique on the guitar was actually composing. . . . Eventually I became more interested in creating instead of re-creating."¹ This early experience with guitar not only informed Schwantner's aural concept for his later compositions, as will be discussed, but provided early opportunities and support for creative musical expression.

Another early influence on Schwantner's musical development was his grade school music teacher, Adeline Anderson, who encouraged him to play tuba in band. Schwantner continued playing tuba throughout his education, eventually joining the band at Thornton Township High School in Harvey, Illinois. He also played guitar in the school's jazz ensembles, and sang in the choir.

Thornton Township had a very strong music program that offered music theory and history courses in addition to the performing ensembles. Schwantner described his

¹ Scott Higbee, "Joseph Schwantner," in *A Composer's Insight: Thoughts, Analysis, and Commentary on Contemporary Masterpieces for Wind Band*, ed. Timothy Salzman (Galesville, MD: Meredith Music Publications, 2003), 131.

involvement in these courses and the various performing ensembles as “The closest thing to being a music major in high school at that time.”² The band director, Lyle Hopkins, encouraged Schwantner’s earliest compositions, which included works for school ensembles and student shows.

Schwantner gained some of his earliest public recognition as a composer from a piece written for jazz ensemble. *Offbeat*, a 5/4 “free” jazz-inspired work, received the 1959 National Band Camp Award.³ As a result of this award, Schwantner had the opportunity to attend the first Stan Kenton Stage Band Camp at Indiana University.⁴

The Stage Band Camp camp, organized by Stan Kenton, Ken Morris, Eugene Hall and Matt Betton, allowed students to learn from and interact with professional musicians. In addition to the performing and improvising opportunities provided by the camp, Schwantner was able to take a composition and arranging class taught by Russ Garcia. Garcia was a trumpet player, composer, and arranger in the 1950’s West coast jazz style. Garcia arranged for television and the Stan Kenton Neophonic Orchestra, in addition to composing original works in the third-stream tradition.⁵ Schwantner later recalled that during this time he realized he wanted to become a composer: “It seemed to be clear to me, that this (composing music) is what I wanted to do.”⁶

² James Popejoy, “From A Dark Millennium Comes the Music of Amber, a Comparative Study of Two Works by Joseph Schwantner” (DMA diss., University of North Texas, 2000), 1.

³ Ibid., 2.

⁴ David Baker, *David Baker's Jazz Pedagogy: A Comprehensive Method of Jazz Education for Teacher and Student* (Van Nuys, CA: Alfred Publishing, 1989), v.

⁵ “Garcia, Russ,” *The New Grove Dictionary of Jazz*, 2nd ed., *Grove Music Online*, Oxford Music Online, Oxford University Press, accessed January 7, 2017, <http://www.oxfordmusiconline.com.proxyiub.uits.iu.edu/subscriber/article/grove/music/J163100>.

⁶ Popejoy, 2.

In pursuit of formal training, Schwantner enrolled at the American Conservatory in Chicago from 1961-1964, studying composition with Bernard Dieter. Dieter was himself a graduate of the school, and anecdotal evidence suggests that Schwantner would have received from him a solid grounding in the compositional and performance traditions of Western classical music.⁷ During his time at the conservatory, Schwantner was influenced by the music of Debussy, Bartók, and Messiaen. His compositional output during this time includes *Sinfonia Brevis* (1963), his first work for orchestra.

After graduating with a Bachelor of Music degree from the American Conservatory, Schwantner continued his education at Northwestern University in Evanston, Illinois. His teachers at Northwestern included Anthony Donato and Alan Stout. Anthony Donato was an advocate for the composition and dissemination of new music by any level of composer, whether professional or amateur. He also recognized the need for a plurality of techniques in contemporary composers, observing that most American composers “have several styles on which to draw as the occasion warrants.”⁸ For Donato, the technical means were not as important as their usage to express “the feeling of the times” as he put it.⁹ Alan Stout had a strong background in American

⁷ Jack Zimmerman, “Schubert’s Mass in A-Flat Major, a ‘Door to Another World,’” *CSO Sounds and Stories*, accessed January 7, 2017, <http://csosoundsandstories.org/schuberts-mass-in-a-flat-major-a-door-to-another-world/>. In this article, Zimmerman describes being a student of Bernard Dieter at the Chicago Conservatory College: “Bernard Dieter, a professor at Chicago Conservatory College, could sit at the piano and play from memory any masterpiece of Western music. That included any symphony or piano concerto by Mozart, Beethoven or Brahms, any Strauss tone poem, any scene from any Wagner opera or any 20th-century work up until the death of Bartok in 1945. The guy knew music better than anyone I’ve ever met.”

⁸ Anthony Donato, “The American Composer and the Teacher,” *American Music Teacher* 6, no. 3 (January-February, 1957): 14.

⁹ Ibid.

contemporary compositional practice. He studied with Henry Cowell and Wallingford Riegger, “ultramodern” American composers who adopted aspects of Schoenberg’s twelve tone method. While Stout also used twelve-tone techniques, he had no particular attachment to Schoenberg’s method. Instead, he used the material in new and creative ways.¹⁰ Similar aspects of stylistic plurality and the free use of twelve-tone material can be observed in Schwantner’s later music, and will be discussed in the next chapter. While at Northwestern, Schwantner was also influenced through studying other composers; particularly Luciano Berio and George Rochberg.¹¹ Scott Higbee describes Schwantner’s focus on Berio and Rochberg:

Of Berio, he cites the *Sinfonia* as a seminal work of the 1960’s, re-engaging as it did the music of Mahler and opening a “startling” new door through which composers could engage the past. Similarly, Schwantner noted how George Rochberg—considered by many to be the pre-eminent North American serialist of the 1950’s—suddenly veered in the direction of Beethoven’s late quartets with his *String Quartet No. 3* in 1972.¹²

Schwantner’s compositions as a graduate student were primarily for soloists and small ensembles. These works earned wide praise, including three BMI Student Composer Awards for his *Concertino* for alto saxophone (1965), *Diaphonia Intervallum* for alto saxophone, flute, piano, and strings (1966), and *Chronicon* for bassoon and piano (1968).¹³ The BMI Student Composer Awards are given annually based on submissions

¹⁰ J. R. Little, “Serial, Aleatoric, And Electronic Techniques In American Organ Music Published Between 1960 And 1972” (Doctoral diss., University of Iowa, 1975), 50.

¹¹ Salzman, 131.

¹² Ibid.

¹³ Nikk Pilato, “A Conductor’s Guide to the Wind Music of Joseph Schwantner with a Transcription of the Composer’s ‘New Morning for the World’” (PhD diss., Florida State University), 3.

judged by an expert panel. The BMI Foundation states that awards are judged on “true creative talent,” and that “academic finesse, while not disregarded, will be considered secondary to vital musicality and clarity of expression of the composer’s work.”¹⁴ The award includes a cash prize of up to \$5,000. *Chronicon* was also premiered at the Tanglewood Festival. Schwantner completed his Master’s Degree in music at Northwestern in 1966. Continuing his studies at Northwestern as a doctoral teaching assistant in the music theory department, he received a Doctoral Degree in music in 1968.

After graduating from Northwestern, Schwantner joined the faculties of the Chicago Conservatory College and the Pacific Lutheran University in Tacoma, Washington, serving as assistant professor in the music theory and composition department at both schools. The following year, he took another assistant professor position at Ball State University in Muncie, Indiana. In 1970, Schwantner joined the composition and theory faculty of the Eastman School of Music, where he would remain until 1999. At Eastman, Schwantner served as an assistant professor of composition and theory for three years, and assistant professor of composition for two years before becoming an associate professor of composition in 1975. He became chairman of the composition department in 1979, and full professor in 1980.

During his first three years at Eastman, Schwantner wrote for Boston Music Viva, a new music ensemble founded and directed by Richard Pittman.¹⁵ It was during his association with Musica Viva that Schwantner’s mature style began to develop, heard in

¹⁴ “BMI Student Composer Awards Rules,” *BMI Foundation*, accessed January 16, 2017, https://bmifoundation.org/applications/rules/bmi_student_composer_awards_rules.

¹⁵ Pilato, 4.

compositions such as *Consortium I*, *Consortium II*, and *In Aeternum*. Specific stylistic and technical aspects of these works that relate to his later style will be discussed in the following chapter.

Also during his tenure at Eastman, Schwantner held a number of temporary lecturer and guest composer positions at other colleges and universities. He served as a guest composer and lecturer at Miami-Dade Junior College in Miami, Florida in 1971. He also served as a guest composer at the University of Houston, Texas, and as Lecturer in Music at the University of Texas at Austin while on leave from Eastman in 1975. In 1979, Schwantner served as Guest Composer and Lecturer at both the University of Michigan at Ann Arbor and Yale University. During sabbaticals from Eastman, he served as Composer in Residence with the Saint Louis Symphony (1982-1985), taught at Juilliard (1986), was the Karel Husa Visiting Professor of Composition at Ithaca College (1987-1989), and returned to the University of Texas at Austin (1993). Following his retirement from Eastman in 1999, Schwantner returned to Yale, serving on the composition faculty there until 2003. After leaving Yale, Schwantner served briefly at the University of North Texas as Composer in Residence during a Klavier recording session of his first four works for winds: *...and the mountains rising nowhere* (1977), *From a Dark Millennium* (1980), *In evening's stillness...* (1996), and *Recoil* (2004). Throughout his varied and wide-ranging career, Schwantner has collaborated with and influenced a younger generation of American composers. These include Eric Ewazen, Daron Hagen, Daniel Kellogg, Carter Pann, Kevin Puts, Christopher Theofanidis, Michael Timpson, and Michael Torke.

While his multifaceted professional career and notable students demonstrate his success as a teacher, the awards and recognition received by Schwantner reveal public and critical esteem for his music.¹⁶ In addition to his student awards, he was the first recipient of the Charles Ives Award in 1970, an annual scholarship presented by the American Academy of Arts and Letters to young composers. He received Composers Fellowship Grants from the National Endowment for the Arts in 1974, 1975, 1977, 1979, 1986, and 1988, and CAPS grants in 1975 and 1977. Also in 1977, Schwantner was a Fellow at the MacDowell Colony In Petersborough, New Hampshire. This secluded retreat provides a workspace for selected artists from all disciplines. In 1978, Schwantner received a Guggenheim Foundation Fellowship in the Creative Arts category. Known as a “mid-career” award, these fellowships are generally intended for established artists.¹⁷ Also that year, he received a commission from the American Composers Orchestra, which led to the composition of *Aftertones of Infinity*. This work is a milestone in Schwantner’s compositional development, particularly in the unique synthesis of serial techniques and tonal elements that would define his mature style.¹⁸ *Aftertones of Infinity* earned a Pulitzer Prize in music the following year, helping to bring Schwantner’s music

¹⁶ Cynthia Folio, “The Synthesis of Traditional and Contemporary Elements in Joseph Schwantner’s Sparrows,” *Perspectives of New Music* 24, no. 1 (Autumn - Winter, 1985), 184. Folio has described this wide recognition of Schwantner’s works: “Joseph Schwantner is one of those rare composers whose music has captured the imaginations of both the musical public and the musical establishment.”

¹⁷ “About the Fellowship,” *John Simon Guggenheim Memorial Foundation*, accessed January 17, 2017, <http://www.gf.org/about>.

¹⁸ Jeffery Briggs, “The Recent Music of Joseph Schwantner: Unique and Essential Elements” (Doctoral diss., University of Illinois, 1984), 1.

to prominence in America.¹⁹ Also during this time, Schwantner won two ISCM National Composers Competition Awards in 1977 and 1980, and two Kennedy Center Friedhelm awards for *Music of Amber* in 1981, and *A Sudden Rainbow* in 1986. Two of his compositions recorded by Leonard Slatkin and the Saint Louis Symphony Orchestra were nominated for Grammy awards in the “Best New Classical Composition” category: *Magabunda: Four Poems of Aguedo Pizzaro* (1985), and *A Sudden Rainbow* (1987). Additional honors include a Fairchild Award in 1985, an Alfred I. Dupont award in 1995, and several honorary doctorates.²⁰

Schwantner has been commissioned by the Saint Louis Symphony Orchestra, the Boston Symphony Orchestra, the San Diego Symphony, the Los Angeles Chamber Orchestra, the St. Paul Chamber Orchestra, the Canton Symphony, the New York Philharmonic, the Eastman Philharmonia, the American Heritage Foundation, the Barlow Endowment for Music Composition, Meet the Composer, the Naumburg Foundation, Solisti New York, and Boston Musica Viva. Wind Ensemble commissions include the Eastman Wind Ensemble, the University of Connecticut Wind Ensemble, the Mid-American Band Directors Association, the Illinois College Band Directors Association, and in 2014, a consortium of wind ensembles and the College Band Directors National Association.

Schwantner’s musical creativity, supported and developed early in life, found a powerfully expressive language in the academic techniques he studied in college. His

¹⁹ Pilato, 6.

²⁰ Ibid., 7.

creative relationships with Boston Musica Viva, the St. Louis Symphony, and other organizations provided an ideal outlet for the further refinement of compositional techniques and concepts which will be discussed in Chapter 2.

Chapter 2: Compositional Characteristics

The music of Joseph Schwanter can be viewed as an evolution of several important compositional strategies and attitudes of the twentieth century. In particular, Schwanter's approach exemplifies a compelling narrative of late twentieth century American compositional practice, which uses Arnold Schoenberg's method of composing with twelve tones as a point of departure. The influence of Schoenberg's teachings, particularly his twelve-tone method, would be felt in American compositional practice and academic programs throughout the twentieth century. However, American composers have not, in general, felt compelled to follow Schoenberg's method as a specific technique. Rather, aspects of the twelve-tone concept have been adopted as a system of tonal organization and a compositional tool to be freely applied.

Joseph Straus has identified two trends in American twelve-tone practice: "(1) the aggregate of twelve tones as a referential harmonic unit, and (2) an ordered succession of tones as a source of motives, melodies, and harmonies."²¹ Straus differentiates the typical American usage of the twelve tone aggregate from Schoenberg's in that American composers tend to break it up into smaller, often transpositionally or inversionally related units. As will be seen, Schwanter integrates the twelve-tone aggregate to varying degrees throughout his career, often by using smaller combinatorial collections to organize large structures in his music. With regard to Straus's second trend, Schwanter's use of ordered series as a source for important motives can be seen throughout his career,

²¹ Joseph N. Straus, *Twelve-Tone Music In America* (Cambridge, UK: Cambridge University Press, 2009), xviii.

although their application is often subject to a free creativity. It is perhaps in this freely creative usage of twelve-tone and serial techniques that Schwantner best represents modern American compositional practice. Straus describes this atmosphere:

Instead of a rigid orthodoxy one finds in American twelve-tone serial music a flexible, loosely knit cultural practice. Composers within this culture share certain tastes and proclivities, and these in turn establish the vague and permeable boundaries of the culture.²²

Schwantner achieves this freedom of technique even while maintaining rigorously controlled tonal, textural, motivic, and orchestrational structures. He accomplishes this by making musical expression the focus of his compositions, and devising technical structures that support and resonate with his artistic goals. He uses twelve-tone and serial techniques to serve his expressive goals, rather than as prescriptive parameters to be followed. By following his artistic imperative, Schwantner has assembled a unique gestalt of compositional characteristics throughout his career that relies heavily upon, but is not limited by, twelve-tone and serial practice. In order to explore Schwantner's evolving style, some foundational elements of his career will be outlined and then several milestone compositions will be discussed as they apply to the adoption and usage of his characteristic techniques.

Foundational Elements

Throughout Schwantner's career and evolution as a composer, certain foundational elements have persisted. These derive from his early experience playing and

²² Ibid.

composing for guitar, and elements from his high school free jazz compositions.

Schwantner describes the influence of guitar on his aural imagination:

I didn't realize until many years later just how important the guitar was in my thinking. . . . To get to the bottom line, when I think about my music, it's absolutely clear to me the profound influence of the guitar in my music. When you look at my pieces, first of all is the preoccupation with color. The guitar is a wonderfully resonant and colorful instrument. Secondly, the guitar is a very highly articulate instrument. You don't bow it, you pluck it and so the notes are very incisive. My musical ideas, the world I seem to inhabit, is highly articulate. Lots of percussion where everything is sharply etched, and then finally, those sharply articulated ideas often hang in the air, which is exactly what happens when you play an E major chord on the guitar. There are these sharp articulations, and then this kind of sustained resonance that you can easily do in percussion—a favorite trick of mine! I think it is right in my bone marrow. I don't think there is any question about that. I think my music would look differently if I were a clarinet player. . . . So it doesn't mean I sit around thinking about the guitar when I am writing a piece. Not at all! There is something fundamental about how I think about music, that I think comes from my experiences as a young kid trying to play everything I could on the instrument.²³

Schwantner's description of the influence of guitar on his aural concept demonstrates an awareness of his synthetic creative process, which is perhaps his most fundamental compositional trait. In this sense, the formation of his mature style is not so much a change as a continual amalgamation, each influence adding its own lasting element to the mix. It is clear from Schwantner's writings and interviews that he consciously incorporated these elements into his gestalt as the expressive demands of his compositions demanded. Schwantner's early experience playing, composing, and listening to jazz is another foundational element of his later career. Specifically, the improvisatory, player-centered free jazz concept informed Schwantner's earliest compositions. It can be argued that the in-the-moment improvisatory quality of

²³ Popejoy, 10.

Schwantner's mature compositions, and his focus on soloistic playing from individual musicians, is related to this early experience. A preoccupation with sound textures and colors is another stylistic trait evident since his student jazz works. It is also likely that a comprehensive band experience throughout his public school education, and the presence of a strong band program under John Paynter while Schwantner was at Northwestern, informed his idiomatic and creative writing for winds. These foundational elements underlie Schwantner's mature creative process. That process will be described in terms of the expression of concrete sources of inspiration, and the amalgamation of techniques to serve this goal.

Inspiration and Technique

The unique synthesis of compositional techniques used by Joseph Schwantner is a direct result of his expressive goals, and gives his music both academic and popular appeal. These goals often have a concrete, extramusical source of inspiration. For instance, many of Schwantner's compositions written since 1973 are inspired by poetry, both original and written by others. He explains "I respond to images of poetry. . . poetry can be a kind of trigger for musical ideas."²⁴ In contrast, the inspiration for his wind works *Recoil* (2004) and *Luminosity* (2015) has a different source: a scientific understanding of phenomena in the physical world. In *Recoil*, this inspiration is in reference to "the properties exhibited by matter involved in any sort of recoiling motion,

²⁴ Higbee, 131.

such as a rubber band or a spring.”²⁵ In a program note for *Luminosity*, Schwantner describes its inspiration as “an astronomical term for the total amount of energy and brightness radiated by a celestial object, [which] serves as the title and metaphor for a kaleidoscopic palette of rich and vibrant instrumental colors explored in this work.”²⁶ While most of Schwantner’s mature compositions have a concrete inspiration, often referred to in the title, the compositions themselves are not wholly defined by these sources. Schwantner describes the typical relationship of his music to its inspiration in the specific case of *...and the mountains rising nowhere*:

While the work is not specifically programmatic, the poem nevertheless acted as the creative impetus for the composition, and provided for me an enigmatic, complex, and powerful imagery creating a wellspring of musical ideas and feelings in sympathetic resonance with the poem.²⁷

Schwantner’s music is not strictly programmatic, but much of it is vividly evocative due to these creative sources. The expression of these poetic and scientific sources of inspiration is achieved through a combination of unique and beautiful timbres and textures, organic tonal organization through set-class relationships, and an instinct for pacing and structure that gives his works a natural, often narrative flow. These stylistic elements and their directed usage for an expressive purpose contribute to Schwantner’s unique and compelling compositional voice.

²⁵ Pilato, 66.

²⁶ “Luminosity: Concerto for Wind Orchestra,” *The Wind Repertory Project*, accessed April 21, 2017, http://www.windrep.org/Luminosity:_Concerto_for_Wind_Orchestra.

²⁷ Ewen, 578.

While style and expression are unifying elements in Schwantner's mature work, he calls on a multiplicity of modern techniques in their service. Schwantner summarizes the development his technical pluralism during his formative years:

The transformation of my work, from a concentration on the use of serial procedures to a music that engages a broader range of techniques and which attempts to incorporate a more diverse stylistic landscape, was a gradual and a continually revelatory one for me throughout the 70's.²⁸

Schwantner's ability to combine diverse techniques and styles is not haphazard, but based on a solid education in and affinity for a variety of modern compositional strategies.

Through his education at Northwestern and his study of composers such as Messiaen, Webern, Boulez, Lutoslawski, Davidovsky, Takemitsu, Ishii, and Crumb, Schwantner was immersed in various elements of the mid twentieth-century academic music scene.²⁹ His student works were in a strict serial style, forming a point of departure for his technical development. As he expanded his technical palette, Schwantner also began to incorporate elements that recalled historical genres, including material based on renaissance, baroque, and romantic practices. However, Schwantner's evocation of these genres is always in the context of historical reference, rather than an authentic recreation. Cynthia Folio explains that "These references. . . are allusions to particular styles, not true imitations. Like dreams, they float in and out of the music's progress; transformed by the context in which they appear, they are given new meanings and new implications."³⁰ As Schwantner

²⁸ Briggs, 1.

²⁹ Cynthia Folio, "An Analysis and Comparison of Four Compositions by Joseph Schwantner: And The Mountains Rising Nowhere; Wild Angels of the Open Hills; Aftertones of Infinity; and Sparrows" (Ph.D. dissertation, University of Rochester, 1985), 6.

³⁰ Ibid., 5.

assimilated compositional techniques, he began to view them as powerful tools to be called on when a particular expression demanded them. Similarly, his cosmopolitan tonal language was assembled gradually.

Throughout his career, Schwantner's evolution as a composer has been towards the freer use of serial techniques in combination with other methods of tonal organization. Jeffery Briggs summarizes this tonal amalgam:

His music is somewhat eclectic in the sense that it adheres to no technique blindly and uses whatever is necessary; serialism, pandiatonicism, functional tonality, or any other technique or procedure, past or present, is employed to achieve its expressive goals.³¹

This unique tonal language is conceived primarily in terms of pitch relationships, specifically based on Allen Forte's writings on pitch-class sets, and will be described through a discussion of his works.³² Through a survey of these select works, the additive process of Schwantner's stylistic development will become apparent. This process reaches a culmination in his works of 1977-1978, and the 1979 Pulitzer Prize in music. At this point, he has developed a varied and powerful set of techniques for the expression of his sources of inspiration. His post-1977 works represent a maturation of modern compositional practice, in which these innovations are used unselfconsciously in an effort to connect with the audience. And therefore, as Folio describes it, "Joseph Schwantner is one of those rare composers whose music has captured the imaginations of both the musical public and the musical establishment."³³

³¹ Briggs, 3.

³² John R. Locke, "A Performance Analysis of Joseph Schwantner's *And The Mountains Rising Nowhere*," *Winds Quarterly* 1, no. 3 (Summer, 1981): 40.

³³ Cynthia Folio, *Perspectives of New Music*, 184.

Compositional Development

Schwantner's dedication to musical expression can be observed throughout his career, even while his musical language and technical skill underwent a series of evolutions. His first published work, *Diaphonia Intervallum* (1965) for flute, alto saxophone, string sextet, and piano, serves as a reference point for future compositional development, in that it most closely follows the conventional academic practice of the time. However, even in its conventional, academic use of modern techniques, there is a freedom of expression apparent in *Diaphonia*. James Chute describes this composition as "a virtual inventory of twentieth-century techniques, ranging from sections where the performers have considerable freedom in choosing tempo, to the employment of dense 12-note chords."³⁴ While this work was written using twelve-tone technique, it is not serial. Rather, pitches are organized by specific motives and intervals, in a freely expressive application of twelve-tone technique that matches the kaleidoscopic colors of the composition.³⁵ The complex and shifting soundscape in *Diaphonia Intervallum* is typical of Schwantner's early atonal works. Rhythmic yet lyrical alto saxophone passages drive the texture during much of the piece, sustained by held chords and tremolos in the strings, pointillistic accompaniment in the piano, and flute commentary. The textures and melodic figures in this work are consistent with the free jazz style of the late 1950's and early 1960's, particularly as heard in the contemporary recordings of Ornette Coleman.

The influence of his teachers at Northwestern, especially Anthony Donato, are also

³⁴ James E. Chute, "The Reemergence of Tonality in Contemporary Music as Shown in the Works of David Del Tredici, Joseph Schwantner, and John Adams" (PhD diss., University of Cincinnati, 1991), 74.

³⁵ Ibid.

noticeable in this work. Donato's harmonic approach is not strictly atonal, but has been described as a "free tonality, often evolving around pitch rather than tonal centers."³⁶ Similarly, while Schwantner's harmonic organization in *Diaphonia* is strictly twelve-tone, it is unified through intervallic relationships and the emphasis of certain pitches through pedal points, in effect forming pitch-class centers. These tonally unifying techniques are applied throughout his career.

During Schwantner's association with the Boston Musica Viva in 1970-1973, his compositions were tailored to this virtuoso group of young musicians. Writing for this small, flexible ensemble was a catalyst for Schwantner's timbral and orchestrational creativity. The music written for BMV represents an effort to achieve a maximum variety of sonic effects from minimal performing forces. In addition to creative scoring and novel extended performance techniques, Schwantner describes another important strategy for expanding timbral resources during this time: "I wanted to explore ways small ensembles produce sound by giving individual musicians more to do. For example, a clarinetist might play other instruments such as crotales, triangles, or crystal goblets."³⁷ This both expanded the timbral palette, and further engaged musicians in performance. This strategy will be seen in many of his mature works.

Schwantner's first composition for the Boston Musica Viva, *Consortium I* (1970), bears a strong resemblance to the pointillistic, serial soundscape of Anton Webern. In her analysis of this work, Cynthia Folio outlines its tonal organization into trichords

³⁶ Ewen, 183.

³⁷ Popejoy, 12.

emphasizing interval-class 1: (016), (015), (012), and (014).³⁸ In this work, interval-class 1 is often expressed as a seventh, a characteristic interval in much of Webern's music.³⁹ In addition to the prominence of this characteristic interval, the sharp, angular textures also bear the aural stamp of Webern.⁴⁰ Unlike most subsequent compositions, *Consortium I* utilizes full ordered tone rows, although they are used somewhat freely, with some pitch repetitions and pedal points.⁴¹ Also utilized in this composition is what Schwantner calls "shared monody," a trademark technique seen in almost all later work. Jeffrey Renshaw describes this timbral technique as "a single linear event melodically shared by many players with each single player entering and sustaining a different pitch of the theme in order. These notes become a single line in which many participate as differentiated from a single player on a solo line."⁴² The distinguishing characteristic of shared monody is the prolongation of certain pitches of the line. This produces a unique coloristic effect, and blurs the line between "vertical" simultaneously sounding harmony and the "horizontal" implied harmony of a melodic line.

One of the next works composed for Boston Musica Viva, *In Aeternum* (1973), introduces a more overt emphasis on the use of color as a foundational compositional

³⁸ Cynthia Folio, "An Analysis and Comparison of Four Compositions by Joseph Schwantner," 9.

³⁹ Kathryn Bailey Puffett, "Webern, Anton," *Grove Music Online, Oxford Music Online*, Oxford University Press, accessed February 11, 2017, <http://www.oxfordmusiconline.com.proxyiub.uits.iu.edu/subscriber/article/grove/music/29993>. Describing Webern's style: "The semitone always figures significantly in his music, usually taking the form of 7ths and 9ths and more expanded forms."

⁴⁰ Popejoy, 12.

⁴¹ Chute, 75.

⁴² Jeffrey Renshaw, "Schwantner's First Work for Wind Ensemble," *The Instrumentalist*, 45 (January, 1991): 79.

element. This represents a turning point in the sound of Schwantner's music, culminating in 1977 with *...and the mountains rising nowhere*. David Ewen describes the importance of these color elements:

A twelve-tone composition, this is a fascinating study in sonorities and sound textures, since the orthodox instruments are combined with exotic sounds produced by rubbing the fingers on half-filled wine glasses, dipping gongs in washtubs of water, and scraping metallic percussion instruments with violin and cello bows. Such effects proved no mere gimmicks but the means of realizing eerie, haunting, shimmering effects, skillfully synchronized with the more formal sounds of the usual instruments.⁴³

In Aeternum is still governed by serial organization, but the rows employed emphasize tonal elements such as tertian intervals. In this piece, the rows are not confined to a prescribed set of rules, but used creatively as an expressive resource. Specific applications include using a literal statement of a row as a solo melody, using aleatoric repetitions of a row as a background texture, and a more traditional structural treatment of the aggregate of the twelve chromatic pitches. In his book *Twelve-Tone Music in America*, Joseph Straus puts Schwantner's usage of "free serialism" in the context of contemporary American practice: "it is not 'free' in the sense of deviating from a normative practice; rather it exemplifies that practice."⁴⁴ Straus argues that twelve-tone technique as practiced by Schwantner continues to be an important aspect of modern American music, and with him "a younger generation of composers, born after 1940, has continued to find in the twelve-tone method a rich resource to draw upon in diverse and exciting ways."⁴⁵ In *Elixir* (1975), Schwantner further incorporated coloristic elements by

⁴³ Ewen, 577.

⁴⁴ Straus, 159.

⁴⁵ Ibid., 157.

continuing to expand the roles of ensemble members and creatively combining serial and tonal elements. In both *In Aeternum* and *Elixir*, a direct connection to Schwantner's guitar-oriented sound concept can be heard. As with his description of the guitar sound, these works feature incisive rhythms followed by a sustained resonance of "sounds that hang in the air."⁴⁶ This phrase has often been used to describe the sound of Schwantner's mature work, and is especially applicable to his wind music.

In *...and the mountains rising nowhere* and *Wild Angels of the Open Hills*, both written in 1977, many of the strands of development in Schwantner's music reach their full expression. Both works are evocatively expressive of their poetic sources, a purpose for which Schwantner's increasingly sophisticated and varied compositional gestalt is ideally suited. There is an immediate contrast in the scope of the instrumentation: *Wild Angels of the Open Hills* is scored for soprano voice, flute, and harp, whereas *...and the mountains rising nowhere* was Schwantner's first published large ensemble composition, scored for expanded orchestral winds, large percussion section, and amplified piano. Similarly, the five songs of the *Wild Angels of the Open Hills* cycle present a contrast of formal scope with the single movement *...and the mountains rising nowhere*. Inspired by text from poems by Ursula LeGuin, *Wild Angels of the Open Hills* represents an expansion of Schwantner's stylistic palette and expressive range. Schwantner describes this stylistic growth:

Because of the exigencies of the text, I felt that the work required a stylistic frame of reference larger than has previously been a part of my recent compositional

⁴⁶ Popejoy, 10.

milieu. For me this perspective became an exciting exploratory path of boundless potential.⁴⁷

The five songs are varied through texture, tonal material, and form. There are also orchestrational changes between movements, even though there are only three players. As he did in *...and the mountains rising nowhere*, in *Wild Angels of the Open Hills* Schwantner asks non-percussion performers to play various percussion instruments and accessories such as glass crystals, triangle, tambourine, wind chimes, and crotales. While contrasting expression in the LeGuin poems results in a range of musical styles in the song cycle, the expression of source material for *...and the mountains rising nowhere* is more abstract in that it does not directly deal with text. Instead, Schwantner seeks to evoke the general mood of the poem “Arioso” by Carol Adler.

Despite their differences, these 1977 compositions have several fundamental similarities. In her 1985 dissertation, Cynthia Folio has written an in-depth study of works written during this formative period of Schwantner’s career. She has outlined several common factors in these and contemporary pieces, including *Aftertones of Infinity* and *Sparrows*; works that were specifically chosen by Schwantner to illustrate important milestones in his compositional development.⁴⁸ Many of these common technical traits were first refined in the 1977 works, and remained part of his compositional language thereafter. Some of these traits seen in *...and the mountains rising nowhere* and *Wild Angels of the Open Hills* include an increased focus on unique colors and textures in order to convey the mood of the text. There is a creative use of instrumentation in order

⁴⁷ Folio, 61.

⁴⁸ Folio, 9.

to achieve these textures, with glass crystals playing an especially important role in both works. In these compositions, glass crystals introduce an important set-class at the beginning, and return at the end to form a timbral and tonal arch structure. In both works, players are also asked to sing held pitches on the neutral syllable “ah,” in what Schwantner calls a “celestial choir.”⁴⁹ Both compositions also utilize a set of unifying melodic or harmonic motives, which appear in various forms throughout.⁵⁰ One specific example of a common motive used in both works is the “bell chord.” So named by Schwantner, this chord can be found in many of his later works, often in association with the word “bell” in source poetry. Another method of tonal unity shared by these works is the process of the pitch-class cycle, or closed cycle. Cynthia Folio describes this process as “harmonic or melodic sequences in which the transposition levels repeat in a regular pattern.”⁵¹ This process is used systematically throughout both *...and the mountains rising nowhere* and *Wild Angels of the Open Hills*, and later works. Schwantner often cyclically transposes a pattern through all permutations back to the starting point, and sometimes back around again. These cycles reinforce a particular set-class or motive, making them a stable point of reference that is often referred to later in a composition. These two compositions also more explicitly focus on a pitch center than his previous works. Certain pitches are emphasized through repetition, duration, and register. While neither of these works is functionally tonal, they utilize diatonic and octatonic collections

⁴⁹ Jeffrey Renshaw, “Joseph Schwantner’s *From a Dark Millennium*,” *The Instrumentalist*, 44 (September, 1989): 22.

⁵⁰ Folio, 61.

⁵¹ *Ibid.*, 76.

in certain sections, giving these areas a tonal sound. One method of duration emphasis is what Schwantner calls “static pillars of harmony,” in which a particular chord is held for a long period, “which undulate[s] through small manipulations of orchestration or registration.”⁵²

Schwantner’s next composition *Aftertones of Infinity* (1978), won the 1979 Pulitzer Prize in Music, and uses many of the techniques and processes developed in ... *and the mountains rising nowhere*, and *Wild Angels of the Open Hills*. These include the use of the “bell chord” and a “celestial choir,” and the ethereal texture of glass crystals at the beginning and end delimiting the frame of an expressive arc. Also, as in his two previous works, in *Aftertones* Schwantner organizes pitch material through recurring motives, reinforcing pitch-cycles, and the establishment of non-functional pitch centers. However, *Aftertones* goes further in its tonal unification. All motives in this piece are either derived from or related to one source set, what Schwantner calls the “protoset,” set 9-10 [01234679A].⁵³ Thus Schwantner initiates a trend of the efficient use of tonal materials in his compositions, using a relatively small amount of musical material with a high degree of interrelation. This trend can be followed through much of his later work.

Sparrows (1978) is one of Schwantner’s most tonally simple compositions. Most musical material in this work directly uses or is derived from the diatonic set-class.⁵⁴ While this work does not follow the conventions of functional tonality, use of diatonic material does give it a tonal sound. This composition for a small ensemble of two winds,

⁵² Higbee, 132.

⁵³ Folio, 118.

⁵⁴ Ibid., 190.

three strings, piano, harp, percussion and soprano voice was completed through a grant from the National Endowment for the Arts. As in previous pieces, performers are asked to play alternate instruments and sing in *Sparrows*. This work is inspired by fifteen select haiku from “The Autumn Wind”, written in the eighteenth century by Issa Kobayashi. In *Sparrows*, Schwantner sought to reflect the economy of means and range of expression of these exquisite poems. By this point in his career, he has developed powerful compositional tools for the expression of specific moods and narrative structures. With this increased precision of expression, there is an increasingly diverse soundscape between later compositions that reflects the diversity of the sources of inspiration. The diversity of expression in these fifteen poems is reflected in the variety of stylistic allusions in *Sparrows*. There are references to jazz, renaissance dance, baroque contrapuntal textures, as well as aspects of romantic prolongation. As mentioned before, these references are not meant to function like true imitations, but as a series of what Schwantner calls “dream states,” meant to evoke a certain mood through allusions.⁵⁵

The final composition examined in this chapter will be *New Morning for the World: Daybreak of Freedom* (1982). This work represents an apogee of tonality in Schwantner’s compositional output. As James Chute describes it, *New Morning* “does not allow even a trace of systematic 12-tone practice.”⁵⁶ This work, conceived as a tribute to the memory of Dr. Martin Luther King, Jr., unfolds in a series of interactions between the orchestra and a narrator. The text is taken from various speeches and writings by Dr.

⁵⁵ Ibid., 188.

⁵⁶ Chute, 88.

King, selected to represent a cross section of his beliefs. The lush sonorities and flowing, lyrical melodies of this piece sound almost Debussian, expressing the mood of the assembled text, which has its own overall telos despite coming from multiple sources. Chute outlines the tonal material used in this piece: primarily two diatonic scales, important harmonic relationships based on a fifth, and extended tertian harmonies including ninth, eleventh, and thirteenth chords.⁵⁷ However, as in most of Schwantner's compositions, the tonal materials are used as a background organizational strategy rather than a primary focus; instead color, texture, and a dramatic narrative flow are the sine qua non of *New Morning*, in the service of its specific expressive purpose.

Conclusion

Schwantner's later compositions continue to present a diverse array of soundscapes and technical innovations. The gradual compilation of compositional tools throughout the 1970's has resulted in a remarkable ability to map sophisticated techniques and methods of organization onto the musical goals of a particular piece. Through freely creative usage of twelve-tone and serial techniques, in combination with elements of tonality such as pitch-class centers, diatonic collections, and tertian harmonies, Schwantner is able to achieve a variety of expressive effects. Through extended performance techniques and expanded roles for musicians, he is able to deeply engage individual performers and further increase timbral resources. These materials are organized in an overall structure that exists not for its own sake, but is a direct reflection

⁵⁷ Ibid.

of the musical expression. Due to these creative structures, Schwantner's temporal organization often has a very human, narrative expression. The natural flow of his works invites listeners to invest themselves creatively into the unfolding composition. While this often gives Schwantner's music an improvisatory quality, there is always a highly integrated organic structure deriving from his set-class organization and his careful planning of orchestration and motivic development. The simultaneously very human, and yet highly structured aspects of Joseph Schwantner's music will be explored in detail through an analysis of *Luminosity: Concerto for Wind Orchestra*.

Chapter 3: Analytical Approach

The purpose of this analysis is to aid the conductor in an artistically meaningful and musically informed performance of Joseph Schwantner's *Luminosity: Concerto for Wind Orchestra*. In support of this objective, some guiding principles of analysis have been adopted. In order to be applicable to the conductor, the analysis will focus on the experience of a performance by considering the aural realization of the score through time. This will be achieved by framing the analysis in a narrative format, applying elements of sonata principle to the large-scale musical discourse, and applying the concept of teleological genesis to the development of musical goals in *Luminosity*. Consideration of the aural realization of the score will include discussion of the perceptual effect of pitch relationships, and Schwantner's use of tonal elements in the context of set-class theory. These principles will be discussed, supported by a brief review of some applicable writing. Building on that foundation, a practical analytical plan will then be outlined in order to support a meaningful and informed musical understanding for the conductor.

Focus on Performance

The first principle concerns the intended application of this analysis to a performance. The ideal behind this principle is that in order to be relevant to the performing artist, a written analysis must resonate with the experience of a performance of the work. This ideal serves a practical purpose, but does not limit a rigorous and illuminating analysis. Instead, it fosters a creative approach to understanding the music in

the context which it was intended: the aural reality of a performance. This experiential approach has allowed this analysis to move beyond a mere description of the printed score to a consideration of how aural elements function across time to articulate the composition. The focus on time and sound is the strategy used to focus this analysis of *Luminosity* on the experience of a performance, and thus remain relevant to the conductor.

Narrative

Consideration of the element of time includes the recognition that an audience does not comprehend the entire composition simultaneously, but temporally. Musical events experienced in the present moment are related to the memory of past events and the anticipation of future events. This simple observation has profound consequences for an understanding of musical form not as a structural object, but as a linear sequence that resembles a narrative in function. Eero Tarasti describes a narrative approach to understanding music in his book *Signs of Music: A Guide to Musical Semiotics*. The understanding of narrativity he applies is described as “a way of shaping the world in its temporal, spatial, and actorial course.”⁵⁸ This implies a view of musical performance in the broader context of how we experience the world around us, specifically how we connect observed events, separated by time and space, into a narrative of causal relationships. In his later book, *Semiotics of Classical Music: How Mozart, Brahms and Wagner Talk to Us*, Tarasti refines his definition of narrativity in a musical context,

⁵⁸ Eero Tarasti, *Signs of Music: A Guide to Musical Semiotics* (Berlin: Mouton de Gruyter, 2002), 112.

specifying three distinct forms: conventional, organic, and existential. Conventional and organic forms of narrativity have been applied to the analysis of *Luminosity*. The conventional model of narrativity “takes shape as clear-cut narrative programs in which the musical subject appears, as actor(s), and does something.”⁵⁹ Describing musical elements in these terms gives them a powerful agency. In *Luminosity*, individual musical “subjects” are introduced and can be followed throughout the composition. The conventional model of narrativity has been applied to a description of their development in various contexts, their relation to each other, and how they interact. Tarasti writes about organic narrativity that it “exceeds borderlines; it resists clear segmentation as it strives for continuous growth in accomplishing the musical *telos*, the goal(s) or gene-signs toward which the musical process drives, unfolding in cyclic patterns.”⁶⁰ Tarasti directly relates his concept of organic narrativity to a description of musical form. The understanding of form not as a static structure, but as what Tarasti calls a “dynamic formal process” is particularly applicable to a performance-focused analysis.⁶¹ For a conductor preparing a performance, this ideal can be realized through a chronological narrative description of form in which specific musical events unfold over time, rather than using a structural metaphor in which the entire form is perceived simultaneously. Often, these musical events work to bring about some kind of goal, or *telos*. Musical goals are realized in *Luminosity* through the application of sonata principle and

⁵⁹ Eero Tarasti, *Semiotics of Classical Music: How Mozart, Brahms and Wagner Talk to Us* (Berlin: De Gruyter Mouton, 2012), 48.

⁶⁰ Ibid.

⁶¹ Tarasti, *Signs of Music*, 112.

teleological genesis. These two large-scale formal principles are general patterns that can be applied to the analysis of a wide range of music.

Sonata Principle

The application of sonata principle used in this analysis is not a prescriptive formal structure, but a broader understanding of the interaction and eventual resolution of contrasting elements. As described by Wilfred Mellers, sonata is "not so much a form, as a principle, an approach to composition. . . . One might even say that there is no such thing as sonata form; there are only sonatas."⁶² Charles Rosen outlines details of a typical textbook description of a sonata movement, which he concludes is appropriate for many eighteenth century sonatas, but increasingly untenable with later works.⁶³ In order to arrive at a more useful model, Rosen derives some functional principles of sonata movements, while attempting to avoid the "traps" of "definition of form on the basis of a

⁶² Wilfrid Mellers, *The Sonata Principle* (New York: Schocken Books, 1969), 581.

⁶³ Charles Rosen, *Sonata Forms*, Rev. ed. (New York: Norton, 1988), 1. He gives a detailed description of a prescriptive textbook formal model: "The *exposition* presents the principal thematic material, establishes the tonic key and modulates to the dominant or to some other closely related key. (In works in the minor, this will generally be the relative major.) The first theme or *first group* of themes is stated at the tonic. . . . This section ends either on the dominant or, more often with a half-close on V of V. The second theme, or *second group*, is stated in the dominant: it is traditionally supposed to have a more lyrical and tranquil character than the first group, and is sometimes said to be more 'feminine.' At the end of the second group, there is a *closing theme*. . . with a cadential function. . . . The *development* section may begin in one of several ways: with the first theme now played at the dominant; with an abrupt modulation to a more remote key; with a reference to the closing theme; or—in rare instances—with a new theme. . . . It is in this part of sonata form that the most distant and the most rapid modulations are to be found, and the technique of development is the fragmentation of the themes of the exposition and the reworking of the fragments into new combinations and sequences. The end of the development prepares the return to the tonic with a passage called the *retransition*. The *recapitulation* starts with the return of the first theme in the tonic. The rest of the section 'recapitulates' the exposition as it was first played, except that the second group and closing theme appear in the tonic, with the bridge passage suitably altered so that it no longer leads to the dominant but prepares what follows in the tonic. Longer works are rounded off by a *coda*."

predetermined set of masterpieces,” and the use of statistical abstractions.⁶⁴ Through a close analysis of a range of historical examples, Rosen gradually accumulates aspects of these sonata principles throughout his book. The principles he derives not only describe the sample compositions, but can be applied to the analysis of other sonata movements. These principles are of value to analysis in preparation for performance because they relate to the narrative concept of events unfolding over time to achieve a telos. In sonata movements, the telos is the resolving of conflicting elements in the recapitulation. In *Luminosity*, the articulation of sonata principle coincides with multiple levels of small- and large-scale goal attainment.

The most fundamental aspects of Rosen’s observations involve contrasting elements which have a readily recognizable character even when altered, and the ultimate goal of their reconciliation. In roughly chronological order, Rosen first observes the development of the “polarization” and “resolution” of “striking and memorable” motives or themes.⁶⁵ Then, in perhaps his most broadly applicable point, he observes that the prescribed sonata harmonic structure is not necessary for the necessary contrast and reconciliation. He writes “it is not, in the end, helpful to claim that sonata form is basically harmonic rather than melodic. . . . Sonata style is essentially a coherent set of methods of setting the contours of a range of forms into high relief and resolving them symmetrically.”⁶⁶ From this broader perspective, the harmonic polarization of themes in the tonic and dominant key areas and their eventual resolution in the tonic is one of many

⁶⁴ Ibid., 7.

⁶⁵ Ibid., 143.

⁶⁶ Ibid., 181.

compositional strategies for articulating sonata principle. In *Luminosity*, the principle of defining and intensifying contrasting elements is extended to rhythmic motives, intervallic content, and orchestration in addition to a large-scale tonal strategy.

Rosen then extends the concept of contrasting themes to contrasting motivic characters, with traits that are recognizable even when transferred from the melody to the accompaniment.⁶⁷ In this case, general motivic characters set up the fundamental contrast rather than fixed themes. Rosen writes that this more flexible conception of contrasting motivic characters required “clearly separable elements” that “could be clearly recognized as they appeared at different points of the work.”⁶⁸ These observations suggest a less restrictive approach to the definition of contrasting elements. The polarized elements could result from contrasting themes, different harmonic areas, distinct motivic characters, or any other method by which a composer can create clearly discernible musical contrast. Wilfred Mellers takes a similar historically derivative approach, focusing more on contemporary cultural context. He describes the development of contrasting elements as a dualism derived from popular music in the eighteenth century, and an intensification of musical conflict observed in sonata movements in the nineteenth century.⁶⁹ In *Luminosity*, the reconciliation of contrasting characters is applied to the first movement, but also to the composition as a whole in a symphonic expansion of sonata principle.

⁶⁷ Ibid. In a discussion of the polarization of characters even in Haydn’s monothematic sonata movements, Rosen describes the transfer of motivic ideas from accompaniment to melody, allowing Haydn to “make themes out of formulas of conventional accompaniment.”

⁶⁸ Ibid., 201.

⁶⁹ Mellers, 593.

The approach of these authors does indeed avoid the traps of relating all sonata movements to a few predetermined models or a statistical abstraction, by examining what composers were trying to accomplish musically. While there are a variety of methods to articulate sonata movements, composers fundamentally set up contrasting characters and their eventual resolution in the recapitulation. Instead of a prescriptive musical form to be populated, this understanding appreciates sonatas as dynamic temporal processes, a musical embodiment of dramatic conflict and reconciliation. This dramatic conception of sonata principle can be described as humanistic and experiential, and resonates with the way a listener experiences a performance of a sonata movement.

Edward Cone articulates a common conception of sonata movements, arguing that form is essentially a rhythmic phenomenon. He describes the form of compositions as the balance of large structural “upbeats” and “downbeats.”⁷⁰ His large-scale rhythmic conception of form is inclusive enough to include a range of specific compositions. However, Cone is more interested in “explaining” the structure of a composition than understanding how the individual musical details articulate that structure.⁷¹ In describing how his rhythmic structural theory applies to performance, he suggests that the performer reduce the composition to its rhythmic structure, or the “upbeats” and “downbeats” of phrases, sections, and movements. He states that “valid performance depends primarily on the perception and communication of the rhythmic life of a composition.”⁷² The

⁷⁰ Edward T. Cone, *Musical Form and Musical Performance* (New York: W.W. Norton, 1968), 25.

⁷¹ *Ibid.*, 39.

⁷² *Ibid.*, 38.

rhythmic principles, he explains, “can ultimately be invoked to explain an entire composition as one all-embracing rhythmic impulse.”⁷³ To clarify his hierarchical view of understanding form, he summarizes:

Such a comprehensive form can be made clear in performance, however, only by virtue of another principle: that the whole is more important than any of its parts. Any conflict of interest must be resolved by suppressing the formal claims of the part in favor of those of the whole.⁷⁴

This rhythmic structural view is not as conducive to analysis for performance, because it emphasizes the large scale form over the musical details that articulate it. This view seems to imply the existence of musical form as a platonic ideal, existing independently of the organized sounds that articulate it. The result is a hierarchical analysis of musical relationships divorced from the temporal reality of a performance, and thus not a helpful approach for the conductor. While a conductor must understand the overall compositional context of all details, this understanding is a means to the end of informed decision making. In service of an analysis that resonates with the experience of a performance of *Luminosity*, the sonata principle applied is not a large-scale formal abstraction, but the dramatic action and interaction of conflicting musical subjects, and their reconciliation.

Teleological Genesis

Like the dramatic conception of sonata described, teleological genesis is an experiential principle of large scale temporal organization that resonates with the way listeners comprehend music. Also similar to the dramatic sonata principle, teleological

⁷³ Ibid., 39.

⁷⁴ Ibid.

genesis describes how a composition works to achieve an ultimate goal, or telos. However, instead of the reconciliation of contrast in a recapitulation of already established material, teleological genesis can be described as the gradual realization of an ideal that appears in its ultimate form only after development. James Hepokoski describes teleological genesis as “the concept of a composition as gradually generative towards the revelation of a higher or fuller condition.”⁷⁵ This process is often used in analysis of music by Jean Sibelius, especially his major works.⁷⁶ In an early observation of this phenomenon, Cecil Gray poetically describes the gradual development of melodic fragments into a fully formed musical idea in the first movement of Sibelius’s Second Symphony: “Sibelius here presents a handful of seemingly disconnected and meaningless scraps of melody, and then breathes life into them, bringing them into organic relation with each other and causing them to grow in stature and significance with each successive appearance, like living things.”⁷⁷ Hepokoski describes a similar process in Sibelius’s Fourth Symphony, “which gradually generates a *telos* theme out of disparate fragments.”⁷⁸ This process is used extensively throughout *Luminosity*, defining multiple levels of the composition from sections to entire movements. In conjunction with other musical processes such as sonata principle, orchestrational development, and set-class aggregation, Schwantner constructs developmental arcs beginning with elemental

⁷⁵ James A. Hepokoski, *Sibelius, Symphony No. 5* (Cambridge: Cambridge University Press, 1993), 26.

⁷⁶ Ibid.

⁷⁷ Cecil Gray, *Sibelius* (London: Oxford university press, 1934), 135-136.

⁷⁸ Hepokoski, 26.

musical ideas that gradually evolve into ideal statements at the end of the section or movement.

J. Peter Burkholder describes a concept called cumulative form that he describes as “a thematic, non-repetitive form in which the principal theme is presented, not at the beginning as in traditional forms, but near the end, and is preceded, not followed, by its development.”⁷⁹ Cumulative form is related to teleological genesis but is specifically applied to defining the form of movements, whereas teleological genesis has been used in this analysis to refer to a more general process of gradually generating a telos. While this description applies to a wide range of developmental procedures, it has been applied to *Luminosity* to describe sections or movements in which the gradual development of an ideal statement at the end is the primary organizing principle. However, the term cumulative is a fitting adjective to describe the particular application of teleological genesis in *Luminosity*, as the ideal statement is often formed through a gradual accumulation of musical material resulting in the telos.

Consideration of Sound

An experientially oriented analysis involves the consideration of the aural effect of elements in the written score. As Mellers warns in the preface to his book: “our comments about music are invalid unless they are based on the facts of sound.”⁸⁰ This corollary involves the aural imagination of the analyst in translating notation into an aural

⁷⁹ J. Peter Burkholder, *All Made of Tunes: Charles Ives and the Uses of Musical Borrowing* (New Haven: Yale University Press, 1995), 137.

⁸⁰ Mellers, x.

image, and also a consideration of those sounds on a listener. While the latter consideration can involve a much broader discussion of psychoacoustics, there are some practical applications that bear on this analysis. For example, despite the systematic avoidance of tonal centers by some atonal composers, there is the possibility that a listener may intuitively hear tonal relations in certain situations. Many musical thinkers have remarked on the inevitability of certain tonal relationships. Mellers summarizes a common view: “The intervals of octave and fifth—whether sounded in sequence (melodically) or simultaneously (harmonically)—suggest stability because of the vibration rates of the two tones bear to one another a simple arithmetical relationship.”⁸¹ Paul Hindemith, in an effort to devise an analytical system capable of describing atonal music, builds an elaborate hierarchical system of tonal relations in his book *The Craft of Musical Composition*. He argues that these tonal relations, derived from the overtone series, are present whether or not intended by “atonal” composers:

Whenever two tones sound, either simultaneously or successively, they create a certain interval-value; whenever chords or intervals are connected, they enter into a more or less close relationship. And whenever the relationships of tones are played off one against another, tonal coherence appears. It is thus quite impossible to devise groups of tones without tonal coherence. Tonality is a natural force, like gravity.⁸²

While these overtone-derived explanations articulate a commonly held belief about the universality of consonant intervals, experimental data demonstrating preference for certain intervallic relationships is more applicable to an analysis focused on the

⁸¹ Ibid., viii.

⁸² Paul Hindemith, *The Craft of Musical Composition*, 4th ed. (New York: Schott Music Corp., 1941), 152.

experience of the listener. In his book *Pitch-Class Constellations: Studies in the Perception of Tonal Centricity*, Erkki Huovinen explores the perception of pitch-class centers based on empirical research. For instance, Huovinen's experimental data suggests that listeners tend to favor the lower tone of a perfect fifth (and the upper note of a perfect fourth) as the local tonal center.⁸³ While the perfect fifth and perfect fourth (interval-class 5) are the strongest indicators of a tonal center in the perception of listeners, preference was also shown for both major and minor thirds (interval-classes 4 and 3).⁸⁴ This data was collected outside the context of tonal music, which implies that these tonal relationships are at work even in "atonal" music.

The emphasis of pitch-class centers outside the context of traditional tonality has been consciously applied by Joseph Schwantner in *Luminosity*. Cynthia Folio describes Schwantner's use of set theory:

Many of the analytical methods of a-tonal music theory, especially those of Allen Forte, are relevant to Schwantner's music; in fact, Schwantner is quite familiar with set theory and uses it to some degree in composing and teaching composition.⁸⁵

Pitch-class centers are established in this work through exploitation of interval-class 5, the development of the diatonic set-class (7-35), and emphasis of pedal tones. In the

⁸³ Erkki Huovinen, *Pitch-Class Constellations: Studies In the Perception of Tonal Centricity* (Turku: Suomen Musiikkitieteellinen Seura, 2002), 325. "In a pitch environment where each stimulus included only one possible ic5-root among its five distinct pcs, it was found that ic5-roots were, indeed, chosen as TCs by a highly significant ($p < .01$) number of subjects in 75% of the trials."

⁸⁴ Ibid., 327-328.

⁸⁵ Cynthia Folio, 8.

analysis of *Luminosity*, this approach resulted in progressing from a technical description of the music to an account of its effect on the listener.

These general models can help frame an analysis in terms that will be comprehensible to the listener, even without special training. Thus, the analyst is able to consider the perceptual effect of a performance of the composition. However, in order to prepare a musically informed performance, a conductor must understand the specific application of these general concepts.

Supporting Art with Knowledge

In order to support artistic musical decisions by the conductor, this document will build all analysis on a detailed knowledge of the score, translated into an aural image articulated over time as described above. The analytical plan described below is based on an approach outlined by Pierre Boulez, in which analysis of musical features takes place only when all details have been assimilated and understood. He writes:

It must begin with the most minute and exact observation possible of the musical facts confronting us; it is then a question of finding a plan, a law of internal organization which takes account of these facts with the maximum coherence; finally comes the interpretation of the compositional laws deduced from this special application.⁸⁶

This model derives a general knowledge of how the music works from an understanding of the particular details. Boulez's model also takes an important step in analyzing a work in preparation for performance: it extends a detailed knowledge of a score to an artistically meaningful interpretation. The word interpretation has become a point of

⁸⁶ Lev Koblyakov, *Pierre Boulez: A World of Harmony* (Chur, Switzerland: Harwood Academic Publishers, 1990), 2.

contention within music analysis literature. In his book *The Compleat Conductor*, Gunther Schuller warns the conductor not to “willfully or inadvertently impose some self-indulgent, over-personalized ‘interpretation’ on that work of art [the composition]. . . . Indeed, if I had my druthers, I would in this context abolish the term—and the idea of—‘interpretation’ altogether.”⁸⁷ However, in the context of Boulez’s description and throughout this document, the term interpretation will refer to the creative process of synthesis that follows from a detailed observation of musical elements in a score rather than a personal agenda. The extension of an analysis beyond mere technical description to a meaningful interpretation is an important aspect of preparing a score for performance, however the interpretation must follow from the facts of the printed score.

A review of some representative thinking will help frame issues specific to this analysis. A good general view of analysis is suggested by Nicholas Cook: “The practical process of examining pieces of music in order to discover, or decide, how they work.”⁸⁸ The term “practical” implies that there is a real world application intended. Cook’s concise definition also recognizes that an analysis is not simply a description of musical elements, but that it must articulate how a piece “works.” This implies discovering relationships among musical elements and a creative decision making process. Cook goes on to emphasize the importance of this decision-making process in determining which relationships are more important than others in the context of a particular work. This gives the analyst an active role, and also leaves room for discrepancy from one analyst to

⁸⁷ Gunther Schuller, *The Compleat Conductor* (New York: Oxford University Press, 1997), 7.

⁸⁸ Nicholas Cook, *A Guide to Musical Analysis* (London: Dent, 1987), 1.

the next. A more specific focus on synthesis is put forth by Joseph Kerman, who describes the analytical process as the discovery of elements of unity in apparently contrasting materials. His approach emphasizes the need to “discern and demonstrate the functional coherence of individual works of art, their ‘organic unity.’”⁸⁹ And, borrowing a definition from the *Harvard Dictionary of Music*, Kerman writes that the focus of analysis is “the synthetic element and the functional significance of the musical detail.”⁹⁰ Despite the difference in focus, we again see an emphasis on exploring how musical details are related and their active role in a larger functionality. Like Cook, Kerman recognizes that musical analysis is not a unified, scientific method, but a process of coming to an artistic understanding of a composition: “I do not think we will understand analysis and the important role it plays in today’s music-academic scene on logical, intellectual, or purely technical grounds. We will need to understand something of its underlying ideology.”⁹¹ He then continues to describe examples of how ideology has shaped the music analysis of several influential writers. Summarizing the active and creative aspects of analysis, the editors of *Histories and Narratives of Music Analysis* aptly describe the predicament of the analyst:

The phenomenon of music assumes countless forms of expression and a vast range of meanings, rendering it impossible for a single history or a single grand narrative to encompass its innumerable aspects. This very recognition of the fertility of musical phenomena weaves an intricate web of readings and

⁸⁹ Joseph Kerman. “How We Got into Analysis, and How to Get Out,” in *Write All These Down: Essays On Music* (Berkeley: University of California Press, 1994), 13.

⁹⁰ Ibid.

⁹¹ Kerman, 14.

interpretations, revealing music analysis as a contextual and above all, a creative act.⁹²

The writings referenced recognize that since analysis is a creative act, there is no such thing as a definitive analysis of a composition. In order to achieve an artistically meaningful performance, the conductor must invest themselves in the analytic process. Therefore, the results are partly dependent on the goals and priorities of the analyst.

Analytical Plan

In order to aid the conductor in an artistically meaningful and musically informed performance of Joseph Schwantner's *Luminosity: Concerto for Wind Orchestra*, a three step analytical plan has been adopted. The first step is a detailed survey of all musical features, including tonal relations, orchestrational structure, motivic development, and rhythmic structure. The musical details will be assimilated and will establish an overall context from which analytical decisions will be made. The next step is to illuminate relationships emerging among the musical details, and from them derive some compositional principles that can be applied to an understanding of how Schwantner's compositional goals are articulated. These compositional principles will be outlined, supported by musical details. The third step is a creative synthesis of musical materials in the context of the compositional principles in order to arrive at an artistic musical conception of *Luminosity*. In service of the creative synthesis phase, this composition will be considered in the context of late twentieth-century American compositional practice

⁹² Miloš Zatkalik, Milena Medić, and Denis Collins, *Histories and Narratives of Music Analysis* (Newcastle upon Tyne, UK: Cambridge Scholars Publishing, 2013), x.

and among Schwantner's wind works. Temporal and aural considerations will be brought to bear on this creative synthetic gestalt, in the form of a chronological compositional narrative describing the teleological unfolding of events, their contrast, interaction, and reconciliation in generating ideal statements of musical goals at the ends of sections, movements, and the entire composition. However, this chapter does not include a specific, personal interpretation beyond the description of these relationships in their musical context, in recognition of the necessity of the personal creative investment of the conductor.

In this detailed study of *Luminosity*, several fundamental characteristics of Schwantner's compositional style will be explored in the context of preparing a performance. Of particular note is the relative simplicity of sound achieved through the highly sophisticated organization of this composition, and the focus of all aspects of each movement on the overall expressive concept. The marriage of technique and musical expression revealed in the following analysis demonstrates the unique compositional voice of Joseph Schwantner as discussed in Chapter 2.

Chapter 4: Analysis

In service of the expressive goals of *Luminosity*, each movement realizes tonal objectives. Movements I and III gradually develop statements of a diatonic collection, focused on the pitch centers Eb and A respectively. These tonal goals combine scalar runs and tertian harmony in a statement of incandescent musical energy, culminating in a major triad. Movement II explores diatonic material in a continuum from energetic stasis to dynamic teleology. All musical elements and relationships described below can be understood in the context of these expressive goals.

Luminosity: Concerto for Wind Orchestra was commissioned by the College Band Director's National Association, with additional support from a consortium led by Dr. Nikk Pilato. The work was completed in 2014 and premiered by the Emory University Wind Ensemble conducted by Nikk Pilato on April 24, 2015 at the Schwartz Center for Performing Arts at Emory University in Atlanta, Georgia. The instrumentation is as follows:

- Piccolo
- Flute 1 (2-3 players)
- Flute 2 (2-3 players)
- Oboe 1
- Oboe 2
- English Horn
- Eb Clarinet
- Bb Solo Clarinet
- Bb Clarinet 1 (2-3 players)
- Bb Clarinet 2 (2-3 players)
- Bb Clarinet 3 (2-3 players)
- Bb Bass Clarinet
- Eb Alto Saxophone 1
- Eb Alto Saxophone 2
- Bb Tenor Saxophone
- Eb Baritone Saxophone
- Bassoon (2 players)
- Contra Bassoon
- C Trumpet 1
- C Trumpet 2
- C Trumpet 3
- Horn 1,2
- Horn 3,4
- Trombone 1
- Trombone 2
- Bass Trombone
- Euphonium (2 players)
- Tuba (1-2 players)
- C. Bass (2 players)
- Piano (*amplified*)
- 3 Percussion Parts + Timpani (see Appendix B for full percussion instrumentation)

Schwantner specifies a non-transposing score: “Score in C, all instruments sound as written except those that transpose at the octave or double octave. Accidentals apply throughout the bar in their respective octaves.”⁹³ Performance instructions are also included: “Stand microphones should be used to amplify: Piccolo, Bb Solo Clarinet, Piano and Marimba. . . Piccolo: two performance locations: [1] Solo, in front of percussion, stand “mic” amplification [2] with flute section. . . Bb Solo Clarinet: [1] Solo, in front of percussion, stand “mic” amplification [2] with clarinet section. . . Percussion 1: marimba (5-octave) (*amplified- share with Percussion 2*). . . Percussion 2: marimba (5-octave) (*amplified- share with Percussion 1*). . . Piano-amplified.”⁹⁴

At 21:30, *Luminosity* is Schwantner’s longest work for winds, and is cast in three movements: Movement I (*spiritoso e energico*), Movement II (*misterioso*), and Movement III (*Grande e con forza*). Nikk Pilato describes his early interaction with Schwantner about the commission:

I emailed him and asked him if he was interested in writing something substantial for winds, longer than the typical 11-12 minute works he had engaged in before. . . . At one point I thought about asking him to write something a little easier, as to make the consortium and resultant composition more attractive to fine high school ensembles—but somehow, it seemed that asking him to do that would be asking him to compromise his unique writing style, and I changed my mind, telling him: Write whatever you’d like, and people will play it.⁹⁵

⁹³ Joseph Schwantner, *Luminosity: Concerto for Wind Orchestra* (New York: Schott Helicon Music Co., 2014), 1.

⁹⁴ *Ibid.*, 2.

⁹⁵ Nikk Pilato, email correspondence with the author, April 19, 2017.

The result is described by the composer as “the latest and most ambitious work I have written for wind ensemble.”⁹⁶ *Luminosity* is ambitious not only in terms of its scope, but in the high level of integration of all musical materials across the three movements. Throughout the work, interrelated elements interact and continuously develop progressively clearer statements of tonal and orchestrational goals.

While this process is highly sophisticated, the musical surface is relatively simple. The tonal palette draws from a collection of seven pitch-classes at any given time and chromatic alterations are introduced individually as part of a gradual tonal evolution, giving *Luminosity* a tonal sound. Musical materials in all three movements are interrelated, so familiar ideas often return with slight variations and in new contexts, developing cyclically. The gradual tonal evolution and cyclic return of musical materials results in the relatively simple aural landscape.

As musical ideas evolve throughout *Luminosity*, the listener experiences a kaleidoscopic development of vibrant orchestrational textures and colors. Schwantner describes the composition primarily in these terms in a program note:

The ensemble is arranged spatially with an extended array of percussion instruments and piano positioned stage front and woodwinds (on the left) and brass (on the right) seated behind on risers. *Luminosity*, an astronomical term for the total amount of energy and brightness radiated by a celestial object, serves as the title and metaphor for a kaleidoscopic palette of rich and vibrant instrumental colors explored in this work. Many of the work's musical ideas are framed by and are associated with specific individual instrumental groups each having their own unique and individual timbral and articulative identities.

In Movement I (*spiritoso e energico*), the drums present a series of forceful and propulsive figures immediately followed by a second layer of rhythmically

⁹⁶ “*Luminosity: Concerto for Wind Orchestra*,” *Schott Music*, accessed April 21, 2017, <https://en.schott-music.com/shop/luminosity-2.html>.

animated woodwind motives. A third sustained pedal note texture stated by muted trumpets and stopped horns completes the presentation of the full ensemble framing this initial opening section and forming the primary musical components developed in the movement.

Movement II (*misterioso*), a slow movement for solo clarinet and ensemble, engages the clarinet's wide ranging voice from low whispered and darkly-hued phrases in the haunting chalumeau register to intense and sweeping arch-like gestures in its brilliant upper range. A rapid seven-note figure, first introduced by the clarinet, plays a central generative role and occurs with ever increasing frequency in the clarinet and ensemble as the movement unfolds.

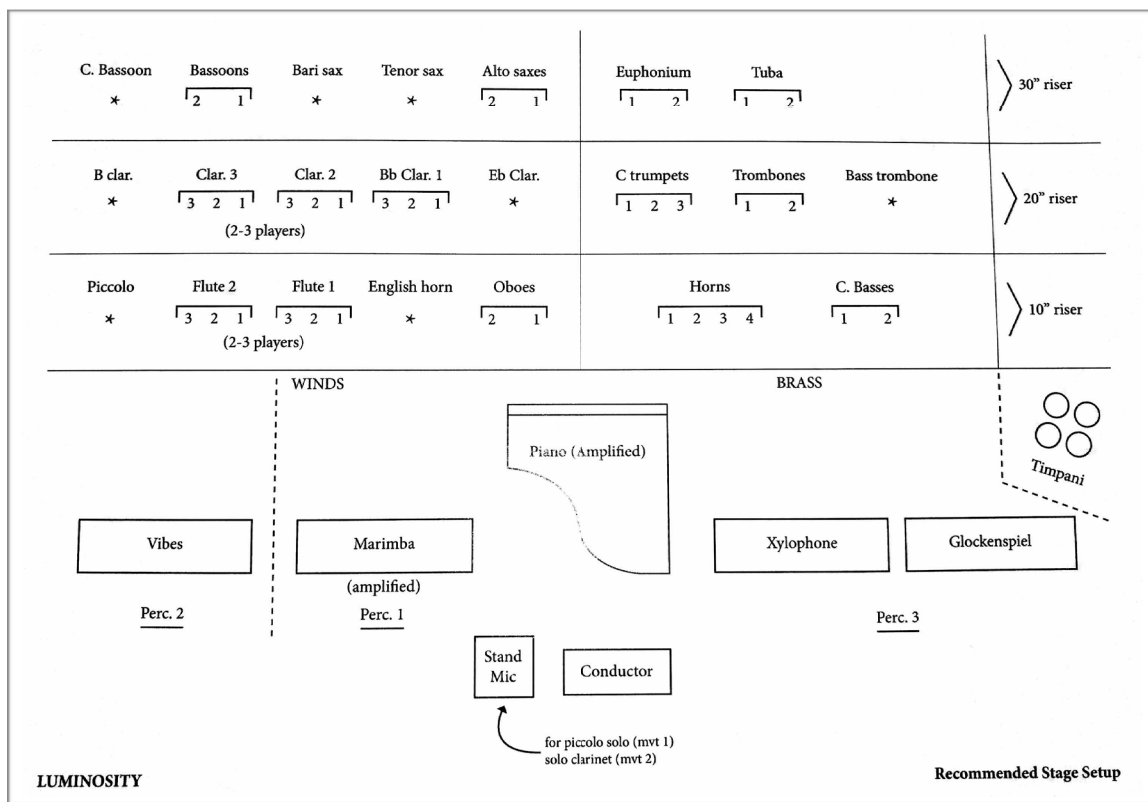
Movement III (*Grande e con forza*) draws from a variety of diverse and distinct musical elements that appear earlier in both Movements I and II, leading to several extended statements of a broad polyphonic texture in the brass. A kind of kaleidoscopic quality emerges as the stratified and layered ensemble textures move toward a final forceful conclusion.⁹⁷

The stage setup described by Schwantner plays an important role in the dramatic interaction between families of instruments. Figure 1 illustrates the spatial orientation of the three families of instruments and the soloists. The spatial separation between woodwinds, brass, and percussion contributes to the drama of sections such as measures 43–48 of Movement I, in which all three families pass around an energetic rhythmic motive in quick succession. There is also an element of visual drama in the movement specified in the score. For instance, in measure 69 of Movement I, the solo piccolo is instructed to move to the front of the stage: “Solo: Piccolo play in solo position in front of percussion. Use stand mic,” and the solo clarinet is given the same instruction in Movement II.⁹⁸ In measure 83 of Movement I, Schwantner specifies “All brass stand and

⁹⁷ “Luminosity: Concerto for Wind Orchestra,” *The Wind Repertory Project*, accessed April 21, 2017, http://www.windrep.org/Luminosity:_Concerto_for_Wind_Orchestra.

⁹⁸ Schwantner, *Luminosity* score, 16.

Figure 1: *Luminosity* recommended stage setup



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play until m. 123,” in a visual emphasis of their important role in the development section.⁹⁹ Nikk Pilato recalls the genesis of this particular visual element:

He came up with that on the fly at the dress rehearsal. It was a way to isolate the brass chorale, starting with the horns and euphoniums, and then working its way to everyone else. . . . It was amazing to me to have him so excited to toss us a new wrinkle the night before the concert, it was so off the cuff and it made an impression on me—we forget sometimes that music can be a visual medium as well, but Joe doesn’t forget these things.¹⁰⁰

These visual indications demonstrate Schwantner’s awareness of the total effect of a musical performance.

Luminosity Compositional Principles

The musical processes in *Luminosity* fall into the broad categories of teleological genesis and sonata principle. Throughout the composition, the development of materials gradually generates musical goals or telos, which occur at the ends of sections and movements. The gradual and continual progress towards goals is an expression of teleological genesis. In conjunction, the development of both short- and long-term goals involves the interaction of persistent contrasting elements, in an expression of sonata principle. In *Luminosity*, teleological genesis and sonata principle are distinct processes, but often overlap and affect each other. The specific compositional principles in each movement can be described in terms of these two processes and their relationship.

⁹⁹ Ibid., 19.

¹⁰⁰ Nikk Pilato, email correspondence with the author, April 19, 2017.

Teleological Genesis

The application of teleological genesis in *Luminosity* involves the attainment of tonal goals: clear scalar or harmonic statements of seven-note set-classes. Like diatonic key areas in tonal music, all pitch material in each section is derived from these referential collections. The seven-note collections used in *Luminosity* belong to one of two set-classes, labeled 7-34 and 7-35 according to Allen Forte's classification system.¹⁰¹ Set-class 7-35 is called the diatonic collection, and includes the major scale and the church modes.¹⁰² Set-class 7-34 is very similar to the diatonic collection in intervallic content and sound, and transforms through chromatic alteration into 7-35 in all three movements. While they have a tonal sound, these referential collections do not follow the conventions of functional tonality, but are organized through set-class relationships.

The attainment of referential set-classes in *Luminosity* usually marks the fulfillment of one line of development and the beginning of another, therefore indicating important structural articulation points. However, these goals each contribute to a larger development throughout the composition, ultimately culminating with the A major triad in the last measure of the third movement. From this perspective, the intermediate goals do not represent sectional divisions but milestones in a larger development that will gradually become apparent to the listener.

¹⁰¹ Allen Forte, *The Structure of Atonal Music* (New Haven: Yale University Press, 1973), 179-180.

¹⁰² Straus, 93.

Sonata Principle

The application of sonata principle in *Luminosity* involves the conflict between contrasting characters. These characters develop throughout the course of the composition. They are first heard together in the beginning of Movement I, in the contrast between the driving thesis rhythms and the arsis upbeats in the percussion. The dynamic thesis material develops additional characteristics of stepwise scalar pitch content, a propulsive forward drive, tertian harmony, and is most often associated with the woodwind family, supported by percussion. The arsis material develops characteristics of open harmonic intervals, particularly perfect fourths and fifths, a more static and timeless expression, and is most often associated with the brass family, also supported by percussion. These characters are distinct polar ideals, and are clearly identifiable in various contexts. The first and third movements are largely dominated by the dynamic character, and the second by the static character. However, both are present and interact throughout the composition. Much of the musical material in *Luminosity* falls somewhere on a spectrum between these two poles, or in transition from one to the other. These characters interact in a dramatic dialog, and their reconciliation often occurs in conjunction with the attainment of other musical goals.

In order to illuminate the function of these elements and how they translate to a performance, the compositional principles of each movement will be discussed, followed by a chronological narrative describing their temporal implementation and interaction.

Movement I Compositional Principles

The exposition of the first movement exemplifies the distinct yet related processes of teleological genesis and sonata principle. The large scale musical goals of this section are the driving hexachords in measures 27–32 and the scalar statement in measures 51–52. Through a gradual process, every measure of the exposition can be heard as progressing towards these goals. As part of this teleological evolution, two distinct characters are developed simultaneously, setting up the contrast of sonata principle. Figure 2 illustrates the exposition of these elements and their gradual development. The initial statement in the percussion is depicted at the top of the figure. The driving figures in the 4/8 measure and the downbeat of the 7/8 measure have the quality of a musical thesis, or stressed downbeat. The 3-note figure at the end of the 7/8 measure has the quality of a musical arsis, or unstressed upbeat. Together, these two measures form a group of three stressed thesis beats followed by an unstressed arsis upbeat. These musical qualities are further developed starting in measure 9.

Figure 2 depicts the development of the percussion thesis rhythms into the driving stepwise figures stated by the woodwinds. These figures retain the thesis character, and add a stepwise scalar element, as observed in measure 9. Likewise, the development of the arsis character can be observed in the trichord at the end of measure 10. This figure retains the upbeat quality initiated in the percussion and adds the tonal element of open intervals. The continued development of these contrasting elements unfolds gradually and logically throughout the exposition. The driving scalar thesis figures culminate in driving

Figure 2: Movement I evolution of thesis and arsis characters

The diagram illustrates the evolution of thesis and arsis characters through a series of musical excerpts and techniques:

- Thesis (1-3):** Shows a progression from *p* to *mf* to *f*. The first excerpt (1) is in 4/8 time, the second (2) in 7/16, and the third (3) in 4/8. Dynamics are *p*, *mf*, and *f* respectively. A *mp* dynamic is also indicated between measures 1 and 2.
- Stepwise (9-11):** Shows a progression from *mf* to *ff* to *ff*. The first excerpt (9) is in 4/8 time, the second (10) in 7/16, and the third (11) in 4/8. Dynamics are *mf*, *ff*, and *ff* respectively. A *p* dynamic is also indicated between measures 9 and 10.
- Driving Hexachords (27):** Shows a progression from *ff* to *[10,11,1,3,5,7]* to *[11,1,3,5,7,8]*.
- Broken Scalar Statement (42):** Shows a progression from *mf* to *cresc.* to *ff*.
- Parallel Full Scalar Statements (51-53):** Shows a progression from *f* to *cresc.* to *ff*.

Arrows indicate the flow and relationships between these musical techniques and excerpts.

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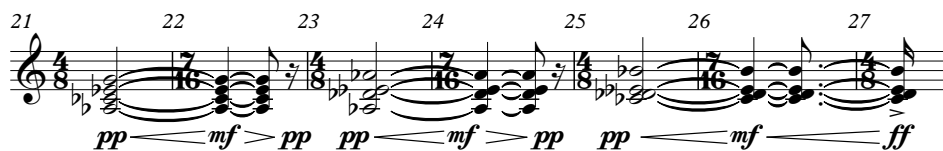
hexachords in measure 27. These harmonic statements retain the thesis character and the stepwise motion, clearly derived from the percussion exposition and woodwind development of this material. After this culmination of the thesis character, the arsis trichords are replaced by extended broken scalar statements, observed in the excerpt of measure 42 in Figure 2. These broken scales retain the open intervals of the arsis figures, combined with a more propulsive stepwise character from the scalar accompaniment. The dual aspects of open intervals and scalar motion can be observed in the three distinct yet related lines in Figure 2. The scalar element of this evolution is developed further at the culmination of this section, observed at the bottom of Figure 2. This construction can be clearly heard as a development of the broken scalar construction, and therefore connected to the arsis character. The development of the arsis material into a more driving scalar character does not diminish the identity of the contrasting characters first stated at the beginning. On the contrary, the shift of character preserves the essential features of each element, independent of surface details. The delineation, development, and transformation of these characters in the exposition sets up a contrast between a driving, propulsive, stepwise thesis character and a more suspended, static, open arsis character. The contrast between these two essential characters will continue to be developed throughout the composition in a variety of contexts.

Throughout the exposition, the woodwinds, brass, and percussion play distinct roles in the development of these sonata elements. The woodwinds initially express both the stepwise melodic character and the open harmonic character in their development of the thesis-arsis motive. The gradual evolution of these characters and their culmination

are stated completely by the woodwinds, with support from the percussion and piano.

The brass play a largely supporting role in the exposition. Their primary function is to bring about the intermediate goals in the woodwinds. In approaching the hexachordal statements in measure 27, the brass progress through three sonorities in a sequence following voice leading rules by which the upper voices move by step, and the lowest voice moves by skip. Example 1 illustrates the stepwise approach to the harmonic goal in measure 25. Similar brass sonorities progress through voice leading to the goals of an Eb major triad with a G in the upper voice in measure 37, and with a Bb in the upper voice in measure 41. Example 2 demonstrates the triadic goal of this second progression, again approached with scalar motion in the upper voices. These brass progressions lend a teleological drive to the woodwind goals, and begin a process of interaction between woodwinds and brass.

Example 1: *Luminosity*, Movement I brass voice leading



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Example 2: Movement I brass voice leading approaching Eb major triads

The image shows a musical score for brass voice leading, measures 35 through 42. The score is written for a brass ensemble in 3/4 time, with a key signature of two flats (Bb and Eb). The melody is in the upper voice, and the harmony is in the lower voice. The dynamics are indicated by the following sequence of markings: *ppp* < *mp* > *ppp* *pp* < *mf* > *pp* *p* < *f* > *pp* *ppp* < *mp* > *ppp* *pp* < *mf* > *pp* *p* *cresc.* *f*. The score is divided into measures 35, 36, 37, 38, 39, 40, 41, and 42. The melody consists of eighth and quarter notes, while the harmony consists of sustained chords.

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After introducing the rhythmic element of the thesis-arsis motive, the percussion plays reinforcing, summative, and adumbrative roles in the exposition. The drums reinforce isolated fragments of the arsis and thesis material in the woodwind development in measures 10–31 and in measures 43–47. At the end of these sections, the drums summarize the thesis-arsis motive in powerful culminations. The pitched percussion and piano anticipate the culminating moment of measure 43 with full harmonic statements of 7-34 in a ringing atmospheric texture. These sustained ringing chords, illustrated in Example 3, maintain a background anticipation of the more conclusive statement in the winds. The hanging texture of the percussion in the midst of decisive motion towards a goal in the winds gives this harmonic statement an adumbrative effect, anticipating rather than culminating. Use of this texture will serve a similar purpose in the development and recapitulation sections.

Example 3: Movement I full harmonic statement of referential collection in percussion

37 38

Piano *ff* *Ped.*

Crotales *ff*

Vibraphone *ff* *Ped.*

Chimes *ff*

Referential Collection 7-34
[7,8,10,11,1,3,5]

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Movement I Chronological Narrative

Movement I begins with four progressively louder statements of the rhythmic thesis-arsis kernel in the percussion, energized with the concitato double strokes that will be associated with this motive throughout the composition. At the climax of this crescendo, the motive is transferred to the woodwinds. Here the concitato figuration is played as two articulated 32nd notes. The thesis aspect takes on a driving stepwise character and the arsis aspect takes on an open harmonic character. The woodwind thesis material progresses through three pitch levels, while the arsis material describes a series of trichords. Figure 3 demonstrates the progression of the thesis material through three ascending pitch levels. The gradual ascent of these figures has a clear teleological drive, which culminates in an intermediate tonal goal. The goal reached through this processes is the alternating woodwind hexachord statements in measures 27–32, alternating with percussion. These inversionally related hexachords are both members of set-class 6-34 (013579), and together they form a complete statement of set-class 7-34. This collection, containing the pitches Eb, F, G, Ab, Bb, Cb, and Db, is the tonal resource for the exposition.

The woodwinds play a more reactive role in measures 35–52. The brass harmonic progressions trigger the broken scalar statements in the woodwinds as described above, leading to a dramatic exchange among all three instrument families in measures 43–48. In order to contextualize future orchestrational developments, it should be noted that the three groups are not playing the same music simultaneously, but in close dialogue. This

Figure 3: Movement I progressive development of stepwise woodwind thesis material

Pitch level 1: Eb/F
measures 9-14

No brass
Drums reinforce arsis material

Pitch level 2: Cb/Db and G/Ab
measures 15-20

Brass sustain Eb
No percussion

Pitch level 3: G/Ab and Cb/Db
measures 21-26

Brass harmonic progression
Drums reinforce arsis material

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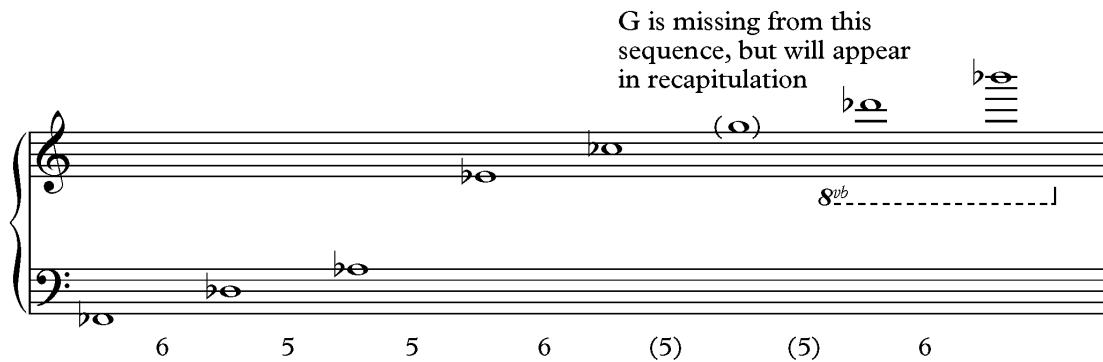
section also includes the introduction of Fb in measure 43, a chromatic alteration that will eventually alter the referential collection. This orchestrational culmination is punctuated with another percussion statement in measures 48–50, followed by an ultimate scalar statement of 7–34 in measures 51–52, as depicted in Figure 2 above. The individual scalar lines of this musical goal include three statements of the full seven-note referential collection, separated by descending thirds. Following these statements, a four-note segment culminates in an Eb major triad on the downbeat of measure 53. These scalar statements run in parallel, describing a series of inverted triads. Further emphasizing the triadic content of this collection, the oboes, english horn, and tenor saxophone highlight notes of the scale forming tertian arpeggios.

In the development of this culmination, the open harmonic character of the initial woodwind trichords has gradually shifted to a stepwise scalar embodiment of a driving character. This transfer maintains the essential features of both contrasting sonata characters while putting them in new contexts. In this way the fundamental character traits are preserved and distinguished without being tied to specific instrumentation, melodies, or motives. In the continuing evolution of these contrasting characters, the stepwise material has come to stand for a dynamic, driving effect, what Schwantner described as “propulsive” and “animated” in his program note.¹⁰³ Through the development of the parallel scalar statements in measures 51–52, this driving character has also become associated with triadic material. This association will continue to develop throughout the composition.

¹⁰³ “Luminosity: Concerto for Wind Orchestra,” *Schott Music*, accessed April 21, 2017, <https://en.schott-music.com/shop/luminosity-2.html>.

In contrast to the movement thus far, the next two sections, at rehearsal marks D and E, focus on a more open, harmonic character. In the section starting at letter D, the driving *concitato* rhythm ceases and the drums introduce a new rhythmic motion that is transferred to a layered sonority in the brass. This sonority will occur three times in this movement, each time serving as a summative milestone and a structural marker. These statements follow an intervallic pattern of a sixth followed by two fifths. This first statement begins on the newly acquired Fb, and ends on Bb. Figure 4 illustrates the intervallic structure of this sonority. The pattern of open intervals results in set-class 6-z25. Although the pattern is maintained as if it were there, the G is missing. This conspicuous gap sets up the acquisition of Gb in the next section, which will ultimately contribute to the formation of referential collection 7-35 in the recapitulation.

Figure 4: Movement I intervallic structure of first brass layered sonority, measure 54



The section starting at letter E is defined by an even more static and open character, as the clarinets describe flowing descending and ascending sequences of fourths alternating with sustained pitches, over swelling brass trichords containing Fb, Ab, and Eb; a member of set-class 3-4 (015). Adumbrative ringing percussion anticipates the approaching attainment of set-class 7-35, while the amplified piano describes lulling rhythmic accelerations and decelerations on Fb. The temporal logic of this section epitomizes a timeless quality, in direct contrast with the drive of the opening. However, there is a telos in this section: the aggregation of each note of set-class 7-35 in the held tones of the clarinets and solo piccolo. Figure 5 illustrates how flourishes in the clarinets and solo piccolo end with held tones. A succession of these sustained pitches gradually states all members of set-class 7-35. While some tones are stated more than once, Figure 5 summarizes the new additions to the aggregate.

The pattern established in this gradual statement of tones begins as the piccolo plays a sequence of stepwise and open intervals leading to a held tone. The clarinets then state a sequence of fourths landing on a held tone, then the low brass chord and lulling piano Fb's lead to another cycle of piccolo, clarinet, brass, and piano statements. Once the final note is stated in measure 83, the aggregate of 7-35 is complete, and the section ends. Thus, the form of this section is defined by the aggregation of the referential set-class, a method of structural articulation that will be used again in Movement II. In the expression of relative stasis in this section, Schwanter includes the descriptions "come un sogno," "sospeso," and "buio" to define the character.¹⁰⁴ The suspended musical time

¹⁰⁴ Respectively, these terms indicate "like a dream," "suspended," and "dark."

Figure 5: Movement I completion of 7-35 aggregate through held tones

Held tones
Contribute to aggregation of 7-35

Addition of new
pitches to aggregate

62 65 68 76 78 79 83

Piccolo Solo

Clarinets

*final note in
7-35 aggregate

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in this section closely resembles the “sounds that hang in the air” in Schwantner’s early wind works, and is a direct contrast to the dynamic driving character of the exposition.¹⁰⁵

The next section, from measure 85 to measure 120, is a dramatic development of the two contrasting characters introduced in the exposition. The brass, woodwinds, and percussion develop along separate but gradually converging courses throughout the section, culminating in measure 115. The brass initiate the development with a held open fifth between Ab and Eb, returning to a fifth on every downbeat. This texture of open harmonic stasis repeats in eight measure cycles starting in measure 85. This basic cycle will continue to develop slight alterations with every repetition.

Example 4 illustrates the basic material developed by the brass family throughout the section. The sustained open harmonic intervals and wide leaps at the ends of measures express the static character. Example 5 illustrates the initial woodwind material, which enters after the first eight measure statement by the brass. While the woodwinds also sustain an open interval, their forward-moving rhythmic repetition embodies an incipient form of the driving character. An expanded statement of this pulsing woodwind pattern is introduced in measure 99, this time involving parallel major and minor triads, alternating between Cb and Eb harmonies. In measure 109, the expansion of the woodwind harmonies further develops into four-voice tertian sonorities. After three repetitions of their eight measure phrase, the brass also develop an expanded statement of their basic pattern. In measure 108, the brass extend their quintal pattern, albeit in a transpositionally

¹⁰⁵ Popejoy, 10.

Example 4: Movement I first cycle of brass development

Basic eight-measure brass cycle
Focused on Ab-Eb perfect fifth

84 85 86 87 88

89 90 91 92 93

p *mp* *p* *mp* *p* *mp* *p* *mp* *p* *mp*

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Example 5: Movement I initial woodwind pattern

Basic pulsing woodwind pattern

93 94

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condensed form, culminating in the five-voice quintal sonority, Db-Ab-Eb-Bb-Fb in measure 108.

Figure 6 illustrates the progressively more tertian harmony developed in the woodwinds. In conjunction with the propulsive rhythms, this development can be heard as a progressively clearer embodiment of the driving character. Likewise, the harmonically open nature of the brass development can be seen in Figure 7, which culminates in a quintal stack in measure 108. The gradual development of the rhythmic lilting tertian sonorities in the woodwinds and the sustained quintal sonorities in the brass coincide on a Cb harmony in measure 113. As seen in Example 6, the brass form a Cb-Gb quintal foundation under the Cb-Eb-Gb-Bb woodwind tertian harmony in this combination of families. This is followed by a full harmonic statement of 7-35 in the brass and woodwinds together in measure 115, alternating with powerful drum hits. This developmental culmination represents the reconciliation of the driving and open characters exhibited by the woodwinds and brass throughout this section, and is the first point which these two families are unified in a simultaneous musical statement. However, as noted above, all three families will not be unified until the last measure of the third movement. After this dramatic fusion of characters, there is a short denouement dissolving the musical material to the basic brass trichord with which the development began: set-class (015).

Throughout the development, the brass and woodwinds maintain their essential open and driving characters, developing progressively more complex statements of their material. While full harmonic statements of 7-35 are heard throughout the development,

Figure 6: Movement I woodwind development of tertian material

Initial open sonority	First tertian expansion	Second tertian expansion
93	99	109

Figure 7: Movement I brass development of quintal material

Initial open sonority	Quintal expansion (exploded voicing)	Simplification in conjunction with woodwind pattern
85	108	113

Example 6: Movement I brass and woodwind culmination on Cb harmony

Woodwinds	113
Brass	

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maintained by the ringing piano and mallet instruments, the telos of the simultaneous brass and woodwind statement in measure 115 marks the culmination of these processes. As in the exposition, extended strands of development that initially seemed independent coincide here in the achievement of an important tonal goal. Stated in terms of sonata principle as discussed above, contrasting characters have developed according to their own nature, and have been reconciled through this process. With this development, the basic materials of the exposition can be presented in a new context in the recapitulation, as a summary rather than introductory statement.

The recapitulation progresses much as the exposition, with materials stated on the same pitch level, but with F and G altered to Fb and Gb. This alteration results in a half step rather than a whole step between the initial alternating thesis material, and fewer instances of tritones in the arsis trichords than the exposition (only one tritone rather than five), among other tonal modifications. The initial woodwind thesis-arsis material from measure 121 to 139 develops into alternating harmonic hexachordal statements, but without the sustained pitches or brass harmony of the exposition. The sole focus on rhythmic motion gives this section more of a teleological drive than the beginning. The piano and percussion support the woodwinds throughout, reinforcing isolated statements of either thesis or arsis material. The hexachords stated by the woodwinds in measures 139-144 are not members of the same set-class as in the exposition, but alternate between pitch-class set [10,11,1,3,4,6] and [11,1,3,4,6,8]. While they are not inversionally related, together they do form a complete statement of set-class 7-35. And like the hexachords in

the exposition, these highly redundant statements mutually exclude either pitch-class 8 or 10.

In approaching the harmonic progressions, the brass join the recapitulation in measures 147–148 with a layered sonority similar to the one in measure 54. Like the earlier example, the sonority in measure 147 introduces pitches in an intervallic pattern of a sixth followed by two fifths. While this pattern starts at a different point in the cycle than the previous example, the same pitch-class set is sustained into measure 148: [8,10,11,1,3,4]. Figure 8 demonstrates that the Gb is stated in its proper place in the intervallic pattern, however it is not sustained and does not contribute to the held sonority. With this entrance, the brass contribute to the musical dialogue in measures 149–162 with a harmonic progression similar to measures 35–41 in the exposition. This progression is extended by seven measures in the recapitulation because of a driving

Figure 8: Movement I intervallic structure of second brass layered sonority, measures 147–148

Gb is stated
but not sustained

The figure shows a musical score for two staves (treble and bass) representing measures 147 and 148. In measure 147, the treble staff has a whole note Gb (F#) and the bass staff has a whole note Gb (F#). In measure 148, the treble staff has a whole note Gb (F#) and the bass staff has a whole note Gb (F#). A dashed line labeled '8vb' connects the Gb in measure 147 to the Gb in measure 148. Above the treble staff, the text 'Gb is stated but not sustained' is written. Below the staves, the numbers 5, 6, 5, 5, 6, 5 are written, corresponding to the measures.

scalar development in the woodwind thesis material. From measure 149 to 156 the stepwise concitato thesis material ascends by one step per measure, describing a full scale starting on Bb in measure 149, and landing on Bb in measure 156 at which level the woodwinds remain. With the Bb established in the woodwinds, the brass section restates their progression, triggering the ascending and descending interlocking broken scale figuration in the woodwinds, remaining focused on Bb instead of the Eb of the exposition.

As before, an ascending broken scale in the woodwinds leads to an exciting climactic dialogue between the woodwinds, brass, and percussion passing as the driving concitato thesis motive is passed around. The brass states a third and final layered sonority in measures 170–171. As seen in Figure 9, the pattern of a sixth and two fifths is again followed, this time starting on a fifth. However, unlike the previous two layered sonorities, there are no gaps in this pattern: the Gb is stated in its proper place and is sustained as part of pitch-class set [6,8,10,11,1,3].

Figure 9: Movement I intervallic structure of third brass layered sonority, measure 170

Gb is sustained
as part of the
layered sonority
[6,8,10,11,1,3]

5 5 6 5 5 6

A small but significant detail in the development of hexachords throughout the movement is the simultaneous inclusion of pitch-classes 8 and 10 (Ab and Bb). This relates to the pattern of the aggregation of pitch-class sets as a formal marker in this movement, but also points to the broader trend of a careful usage of pitch-classes as dramatic elements. The alteration or attainment of a particular pitch-class or pitch-classes is the motivation of large sections of development in this movement, and will also be observed in Movement II. Movement I ends with an ultimate statement of 7-35 in a scalar construction like the end of the exposition. Like earlier, this statement comprises arpeggiated statements and parallel lines of seven-note scalar segments separated by descending thirds. This 7-35 statement culminate in a Bb major triad on the downbeat of measure 174.

Movement II Compositional Principles

In Movement II, a series of developments unfolds in the attainment of short- and long-term goals, with a primary focus on a relatively static, harmonically open character. Many of the important developments occur through a modified concerto dynamic, in which the ensemble introduces sections, the solo clarinet develops important musical material, then the ensemble reiterates and expands on that material. Like the first movement, the first part of Movement II uses a member of set-class 7-34 as a referential collection, progressing to a member of set-class 7-35 after measure 75. While there is a continual development of musical goals at the ends of sections in Movement II, these goals are attained without the degree of teleological drive displayed in Movement I.

Instead, other techniques of demonstrating progress towards and attainment of goals are used.

Strategies used to achieve musical goals in Movement II include using recurring subsets as structural markers, demonstrating developmental progress through the sequence of relatively static musical events, and the gradual attainment of referential aggregates as a structural marker, usually marked by full harmonic or melodic statements of referential collections. Another technique used in this movement is the omission of specific pitches of the referential collection, forming exclusive hexachords. The pitches excluded from these hexachords are sometimes the focus of the following measures, giving them a local emphasis. Through these relatively passive processes, progress toward the 7-35 referential collection is gradually revealed, and momentum is built towards the more active material within this diatonic referential collection, as described below.

Within the 7-35 referential collection area from measure 75 to the end, the music displays more of a rhythmic driving character. As part of this more musically active section, Schwantner uses a modified form of an interval chain. This technique, used to achieve a unification of tonal materials through “intervallic projection,” has been used by Schwantner in other compositions as a strict, “patterned transposition of pitch-class sets.”¹⁰⁶ However, as in every non-transitional area of *Luminosity*, this interval chain-like process, used by Schwantner in measures 91–97 and 100–106, draws only from the referential collection of the section, in this case 7-35. Therefore, while the application of

¹⁰⁶ Briggs, 10-12.

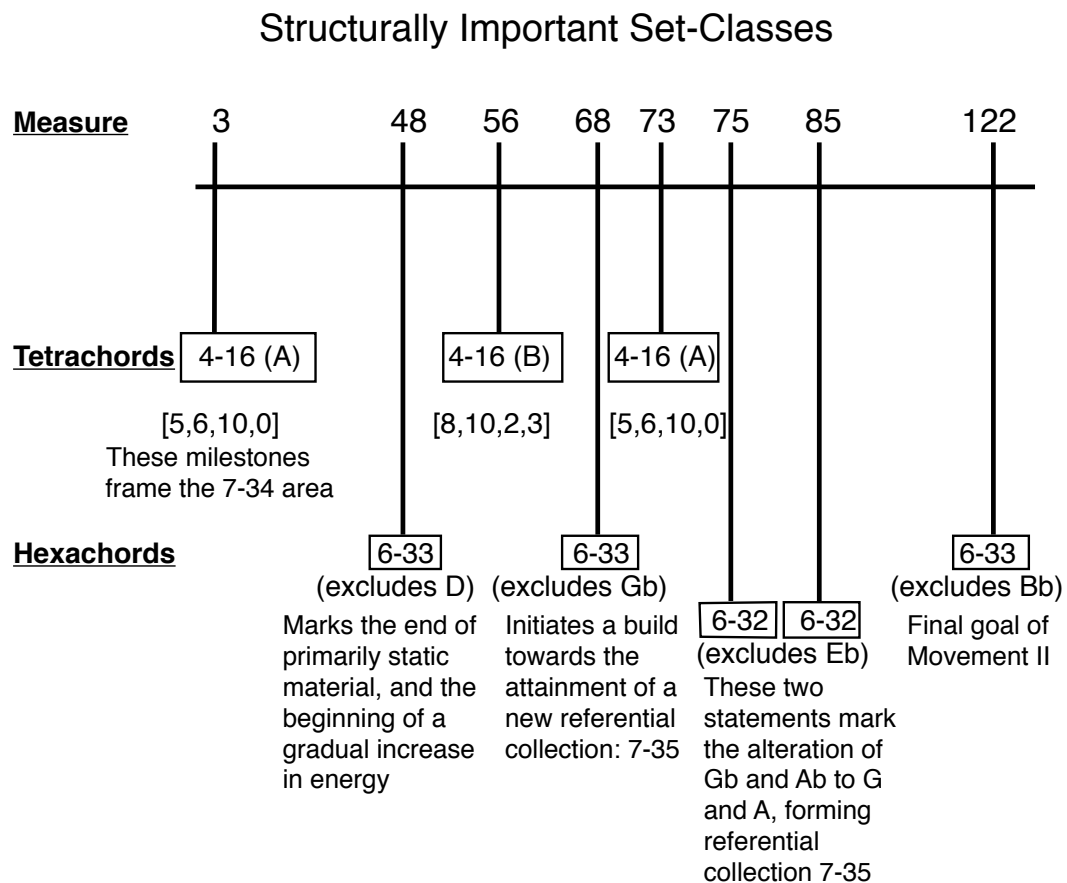
this process is thorough, the repeated sequence consists of generic intervals rather than exact intervals. Other characteristics of Schwantner's previous use of interval chains apply. As outlined by Jeffrey Briggs, these chains "appear as the basis for sections of pieces," are "complex, multiformed designs," and "sections that contain interval chains include no other activity."¹⁰⁷ The use of generic interval chains in Movement II provides a textural and procedural climax without a strong teleological drive, thus maintaining the overall static character of the movement.

Movement II Chronological Narrative

Movement II of *Luminosity* begins and ends on a single pitch-class: Gb and A respectively. In the beginning, gently pulsing octave Gb's ring in piano, timpani, and pizzicato bass, providing a tonal focus to the recurring statements of set-class 4-16 (0157) in the mallet instruments. This set-class occurs at three key points during the first half of the movement. The first instance of this set-class comprises Gb, Bb, F, and C. Later, this set-class appears in a transposed form, and eventually returns at the original pitch level. This subset of 7-34 functions as a structural marker in the first half of the movement, signaling the attainment of important tonal goals. The structurally important set-classes are diagrammed in Figure 10. The beginning, middle, and end of the 7-34 referential area are marked by 4-16 tetrachords. Statements of 6-33 hexachords act as structurally important signifiers, marking the culmination or initiation of musical activity. Statements

¹⁰⁷ Ibid., 12.

Figure 10: Movement II formal markers



of 6-32 hexachords mark important pitch alterations which result in the formation of a 7-35 referential collection.

Throughout the introduction, the solo clarinet gradually accumulates pitches of the referential collection 7-34 through held tones, reaching an aggregate with the held Bb in measure 13. In this movement, 7-34 comprises Bb, C, D, Eb, F, Gb, and Ab. While a pitch focus for this collection is not apparent from the gently wandering clarinet exposition, Bb will eventually be emphasized. The solo clarinet is marked *bisbigliando* starting in measure 5, Italian for “whispering,” and used in harp playing to mean “a special effect resembling a tremolo, obtained by moving the finger quickly against the string.”¹⁰⁸ While this term is often used to indicate a timbral trill in the context of wind music, here it can be taken as a stylistic description of a quietly flowing effect, a smoothly virtuosic gesture leading to a series of held tones that eventually aggregate the referential collection.

The *bisbigliando* gestures are static quartal collections, largely maintaining the same pitch material ascending and descending within each slur. Example 7 illustrates the static quartal construction, arpeggiating the same interval descending and ascending. The final *bisbigliando* figure before the aggregate in measure 13 contains all seven notes of the referential collection. There is another event that coincides with this aggregate: the short-term completion of a series of descending fifths starting on C in measure 11, F in

¹⁰⁸ “Bisbigliando,” *The Oxford Companion to Music*, *Oxford Music Online*, Oxford University Press, accessed April 15, 2017, <http://www.oxfordmusiconline.com.proxyiub.uits.iu.edu/subscriber/article/opr/t114/e810>.

Example 7: Movement II static quartal construction of solo clarinet figures



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measure 12, and finally Bb in measure 13. This event will not have special significance to the listener at this point in the composition, but further repetitions of this sequence later in the movement will make it a significant part of the aural landscape. Following this aggregation of 7-34, a pattern of trichords is arpeggiated, rising primarily by fourths and fifths in the solo clarinet in measure 14, and is then echoed by clarinets and flutes in a layered texture. By staggering the entrance of each layer, this pattern quickly grows into a complex saturation of 7-34. Example 8 illustrates how the simple pattern of quartal intervals initiated on each beat quickly grows in complexity and then resolves itself back into a unison line. These layered statements culminate in a harmonic statement of 7-34 in measure 17, punctuated by gently rocking swells in piano and percussion. This logical process is used in Movement II as a procedural intensification of the referential collection. A similarly logical intensification is utilized to develop a saturation of referential collection 7-35 in the second half of the movement.

Solo Clarinet

Clarinet Choir

14

15

16

17

mf *f* *ppp cresc.*

pp *ppp*

Full harmonic statement of 7-34

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The sequence of solo clarinet trichords, ensemble trichords, and punctuating percussion textures repeats in measures 21–38. However, instead of a full statement of

7-34, here the clarinet excludes Eb. This exclusive hexachord therefore comprises Bb, C, D, F, Gb, and Ab, a member of set-class 6-34. There are several important hexachords used throughout this movement, recurring at key moments. While these collections bear a strong resemblance to each other as nearly complete statements of the seven-note referential collection, they have unique intervallic properties depending on which note is omitted, and therefore serve as aural milestones as they recur throughout the movement. These hexachords each have an individual arc of development as they are used in different contexts, and at different transposition levels, together forming multiple levels of aural association. However, the referential collection is strictly maintained within sections: 7-34 up to measure 75, and 7-35 from measure 76 to the end. In this way, Schwantner is able to set up a series of structural relationships throughout the movement while maintaining a simple tonal landscape.

The clarinet statement of trichords in measure 21 is answered by a layered ensemble statement as before, this time culminating in a hexachord excluding Ab. A slightly extended percussion textural statement sets up a *bisbigliando* solo clarinet cadenza similar to the beginning of the movement. Again, this material concludes on a series of held notes descending in fifths from C to F and landing on Bb in measure 49. Unlike the culminating full statement of 7-34 before, here the final clarinet *bisbigliando* figure excludes the note D, forming an exclusive hexachord made of Bb, C, Eb, F, Gb, and Ab, a member of set-class 6-33. This is the first of three prominent statements of this set-class, each forming an important structural articulation point, as illustrated in figure 10 above. Here, set-class 6-33 marks the end of the primarily static, suspended material,

and the beginning of a gradual increase in musical energy leading to the *con agilità e capriccioso* material starting in measure 87 and maintained to the end of the movement. With the final Bb in the solo clarinet, an aggregate of set-class 6-33 is also formed, lending a larger structural weight to its importance.

The gradual building of energy from measure 50 to 87 features tremolos and flourishes in the piano and mallet percussion and prominent use of the interval of a sixth. The addition of this tertian interval recalls the driving character and gives the music a more tonal sound than the largely quintal and quartal constructions of the movement thus far. In addition to the first statement of 6-33 in this section, there is another structurally significant set-class milestone: beginning with the open fifth between Eb and Bb in measure 50, pitches are gradually accumulated to form a complete statement of 7-34 in measure 55. This statement is refined to the four pitches of set-class 4-16 (0157) in measure 56: Ab, Bb, D, and Eb. This is a transposed version of the same tetrachord heard in the beginning. This section concludes with a Bb major triad in measure 60.

Energy continues to build in the next section, culminating in a transformation of set-class 7-34 to the diatonic collection, set-class 7-35. The addition of prominent tertian intervals are clear moves towards the dynamic character, further enhanced by more lively clarinet cadenza material beginning in measure 62. Marked *luminoso e animato*, this material resembles the earlier bisbigliando gestures, but here it is fortissimo and accented rather than smoothly flowing. These gestures culminate in tremolos rather than held tones, building to another prominent statement of the hexachord 6-33 in measure 68, this time excluding Gb. This harmonic statement is energized with fortissimo tremolos in the

woodwinds, triggering a building series of woodwind echoes of the solo clarinet gestures. These culminate in the third statement of set-class 4-16 (0157) in measures 73-74. As demonstrated in Figure 10 above, this statement occurs at the same transposition level as the beginning, forming a clear aural association and framing the 7-34 referential area. This important structural moment results in the only chromatic alteration in the movement: the shift of Ab and Gb to A and G natural in a tutti woodwind flourish in measure 75. With these alterations, set-class 7-35 becomes the referential collection for the rest of the movement, comprising Bb, C, D, Eb, F, G, and A. With this important musical goal achieved, a denouement closes this section of the movement. A series of flourishes in the piano and mallet percussion describe a series of descending fifths: D and A in measure 77, D, A, and E in measure 78, G and D in measure 79, C and G in measures 80–83, and Bb, F, and C in measure 84. Figure 11 maps this pattern of descending fifths. Starting in measure 78, a descending series of fifths is stated, culminating on the Bb-F-C harmony in measure 84. This descending pattern provides a feeling of closure to the first part of Movement II and introduces the next, more active section of the movement.

The *con agilità e capriccioso* section of the movement is introduced with a harmonic statement of hexachord 6-32 in measures 86–88, excluding Eb. This section moves in largely triplet-based rhythmic patterns, sometimes juxtaposed with a duple feel. One of the large-scale functions of this section is to gradually reintroduce the dynamic character in preparation for Movement III. Toward this effort, there is more interaction between the solo clarinet and other instruments, the inclusion of some of the broken-

Figure 11: Movement II pattern of descending fifths closing the static character section

Measure	77	78	79	80	84
		E			
	A	A			
	D	D	D		
			G	G	
				C	C
					F
					Bb

scalar figuration heard in Movement I, and a more teleological feel through progressive sequences, or generic interval chains as described above.

From measure 90 to 108, every melodic part states the full 7-35 referential collection in every measure. This diatonic saturation and the relative textural complexity drive the music forward to a climactic harmonic statement of set-class 6-33 (excluding Bb) in measure 122. In the process, the solo clarinet and marimba alternate every measure from 91–97 with the piccolo and Eb clarinet in segments of a generic interval chain. Example 9 illustrates the pattern of intervals, which can be compared vertically in the odd numbered measures (91, 93, 95, and 97) on the left and the even numbered measures (92, 94, and 96) on the right. These interval chains occasionally transpose at the octave, resulting in an inverted interval, but maintain the structure of interval-classes. Following a two-measure transition, the generic interval chain is stated in full by the solo clarinet from 100–106, joined by flutes, Eb clarinet, piano, and mallet percussion in an alternating pattern of accompaniment.

Throughout these statements of the generic interval chain, background instruments reinforce the pattern by reinforcing every other note in an interlocking pattern. In the *breathless* section starting in measure 108, the complex patterns develop into an extended statement of the layered trichordal material introduced in measures 15–16. In this final teleological drive, slowly building stepwise counterpoint emerges in the oboes, english horn, and Eb clarinet, reinforcing the dynamic character. With the culminating statement of 6-33 in measure 122, the solo clarinet softly reiterates the

Example 9: Movement II generic interval chain in measures 91–97

<p>Solo Clarinet and Marimba on odd # measures</p>	<p>Piccolo and Eb Clarinet on even # measures</p>
<p>4 4 3 2 4(4)(3)2 4 4 3 2 4 4 2</p> <p>5 6</p>	
	<p>4 2 6 2 6 2 6 2 6 2 2 2</p>
<p>4 4 3 2 4 4 3 2 4 4 3 2 4 4 2</p>	
	<p>4 2 6 2 6 2 6 2 6 2 2 2</p> <p>3</p>
<p>4 4 3 2 4 4 3 2 4 4 3 2 4 4 2</p>	
	<p>4 2 6 2 (6) 2(6)2 6 2 2 2</p> <p>3 3 3</p>
<p>4 4 3 2 4 4 3 2 4 4 3 2 4 4 2</p>	

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trichordal pattern, followed by a final layered echo in the woodwinds that fades out, revealing a solitary A held in the solo clarinet to close Movement II.

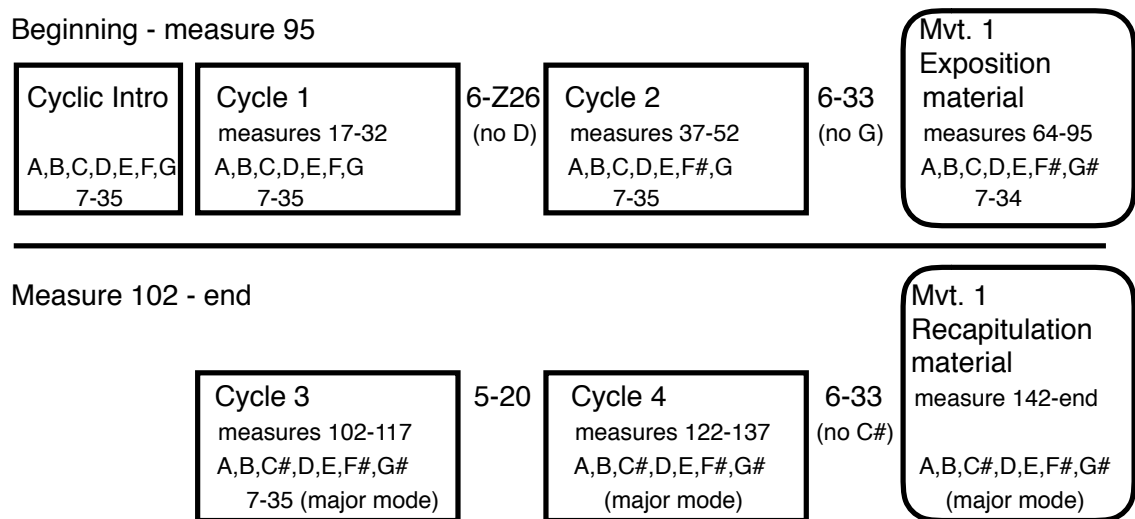
Movement III Compositional Principles

Movement III of *Luminosity* begins with a rhythmic motive, and throughout the movement develops a full statement of set-class 7-35. The tonal focus on pitch-class A orients this collection in the same intervallic pattern as the major mode. This development, concluding on a resonantly scored A major triad on the last measure, is the ideal towards which the entire composition has progressed. The final chord is also the only point in the entire composition in which the woodwind, brass, and percussion families state the same musical material simultaneously.

In achieving the ultimate statement of the major mode referential collection and the final major triad, Movement III alternates processes of cyclic development of pitch material with recapitulations of the sonata material from Movement I. The cyclic material consists of four-part contrapuntal brass ostinati, to which percussion and woodwind material is gradually added. There are four cycles, in measures 17–32, 37–52, 102–117, and 122–137, through which the pitch material for the 7-35 referential collection is gradually developed. Each cycle represents a step in the accumulation of musical material and culminates in a harmonic statement. Between the second and third cycles, and from measure 142 to the end, the reconciliation of sonata elements from the first movement is extended in an ultimate recapitulation, further resolving these elements in the major mode. Figure 12 illustrates the structural arrangement of sections and the referential

collection for each section. In the first half of the movement, the introduction and cycles one and two use two members of set-class 7-35 as referential collections, spelled out in Figure 12. The addition of G# in the exposition material from Movement I results in a 7-34 referential collection. A similar process is mapped in Figure 12, utilizing the major-mode position of set-class 7-35 in each section.

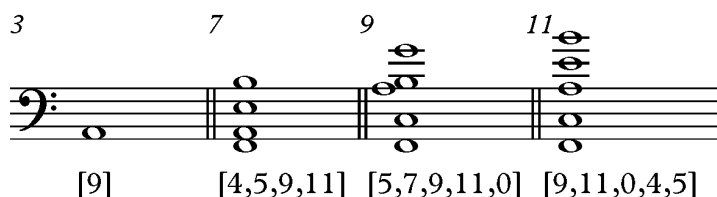
Figure 12: Movement III major sections, pitch collections, and structural set-classes



Movement III Chronological Narrative

An elemental rhythmic idea opens Movement III, much like the beginning of the first movement. This rhythmic motive consists of a strong downbeat and dissipating echoes with a triple feel, thus establishing a thesis-arsis relationship. However, the triplet echoes here have less agency than the arsis material of the first movement. Rather, they are more of an auxiliary feature of the energetic downbeats. This repeated rhythmic motive acquires pitch in measure 3. An A pedal in the low winds reinforces the thesis and arsis with accented downbeats and a soft sustain. These pedals crescendo into the percussion triplets and then dissipate. This first section is an introduction to the cyclic material. In an organic echo of the larger cyclic development, this introduction gradually develops harmonic complexity, stating a tetrachord [4,5,9,11] in measures 7–8, pentachords [5,7,9,11,0] in measures 9–10, and culminating in a quintal statement of [9,11,0,4,5] in measure 11. A reiteration of the A pedal in measure 13 initiates the first cycle in measure 17. Figure 13 summarizes the development of harmonies in this section.

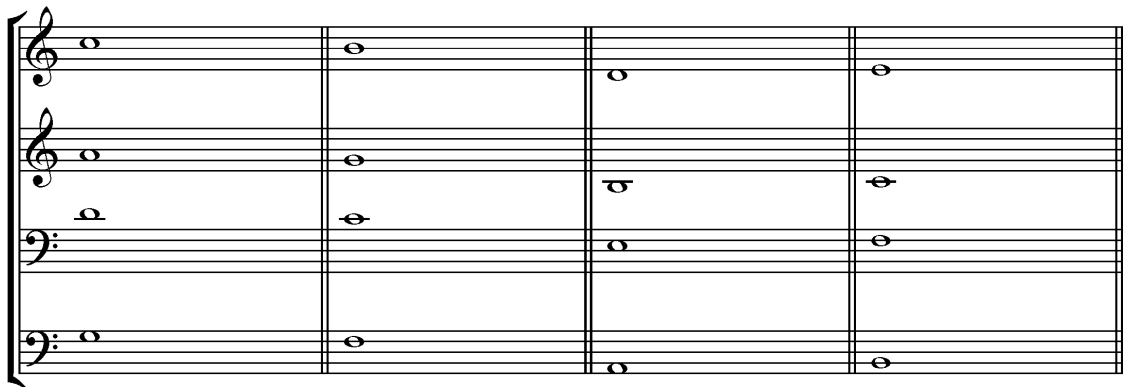
Figure 13: Movement III pitch development in the introduction



The first cycle starts simply on octave F's and gradually builds complexity as four independent ostinati are introduced in sequence. Due to their independence and registral separation, the four voices will be referred to as soprano, alto, tenor, and bass according to their range. All four voices move at different times within each measure, establishing unique rhythmic signatures. Throughout this and all subsequent cycles, the alto and soprano voices are separated by a third, but offset due to their unique rhythms. The bass and tenor voices are likewise separated by a fifth, as are the tenor and alto.

The tenor voice enters first in measure 17, establishing a four-note ostinato in horns, trombone 2, and euphonium 1 and 2. In a similar manner the bass voice joins the texture in measure 19, the alto in 22, and the soprano in 25, each comprising a four-note ostinato within the 7-35 referential collection, focused on the A pedal: A, B, C, D, E, F, G. A simplified summary of the pitch content of each voice of this cycle is displayed in Figure 14 out of their unique rhythmic context.

Figure 14: Movement III pitch content of four voices within first cycle



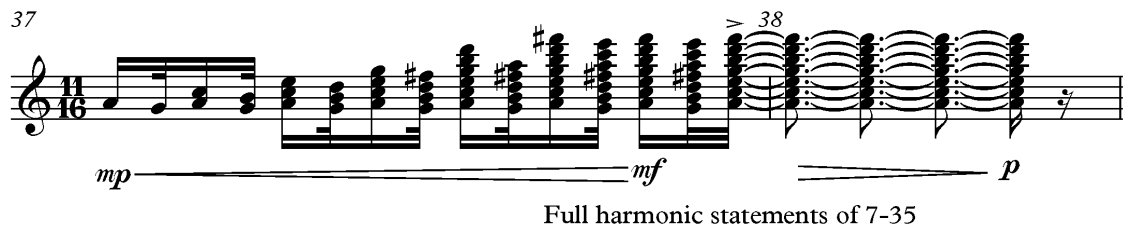
In measures 28, 30, and 32, the tenor and soprano voices break their ostinato patterns to outline a simple melodic cadential figure: D, E, and F, leading to the sonority [5, 9, 11, 0]. The end of this first cycle is marked by a hexachord, in a familiar structural cue from the first two movements. This sonority, a member of set-class 6-Z26 (013578), includes all pitches of the 7-35 referential collection excluding D. This hexachord transitions directly into the second cycle.

This next cycle incorporates the woodwinds in a statement of the triplet echo material in alternation with the percussion. The woodwinds build a harmonic statement in layers starting in measure 37. In this statement they introduce the altered pitch F#, modifying the referential collection to include A, B, C, D, E, F#, and G, a transposed member of set-class 7-35. Each measure of the woodwind triplet echoes builds to a full harmonic statement of the new referential collection as the brass play the second chorale a fifth higher than in the first cycle. As seen in Example 10, notes are progressively added a third above the previous chord, culminating in full seven-note harmonic statements of 7-35.

This second chorale culminates on a full harmonic statement of the referential collection in all woodwinds and brass.¹⁰⁹ The end of the second cycle is marked by another hexachord, familiar from the second movement: 6-33 (excluding G). This neatly sets up the next pitch transformation, from G to G# in measure 57, again introduced by woodwind triplet material. With this transformation, the referential collection becomes A, B, C, D, E, F#, and G#, a member of set class 7-34, familiar from the exposition of the

¹⁰⁹ There is only one D scored, in the Flute 2 part. This same orchestration in the context of a new referential collection will be seen in the fourth cycle.

Example 10: Movement III woodwind triplet echoes building tertian statements of 7-35



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first movement. This referential collection anticipates the upcoming return of material from the exposition of the first movement in measure 70.

In the transitory section from measure 57 to 63, the woodwind triplet echoes descend by a step every measure, landing on another member of set-class 6-33 in measure 64, this time excluding C. This sets up the return of material from the exposition of Movement I, and a sequential palindromic construction in piano and mallet percussion. The sequence runs from measure 64 to 95 and comprises two lines in parallel thirds. The rhythmic pattern of this sequence comprises groups of sixteenth notes separated by longer eighth or dotted eighth notes. The number of sixteenth notes in each group steadily increases then decreases in a palindromic construction. The pattern begins without any sixteenths between the eighth notes. Then the eighths are separated by single sixteenth

notes, then with two, three, four, nine, and ultimately a group of thirteen in measures 76–77. The sequence then reverses, with progressively fewer sixteenth notes in each group. The pattern is not strict, as there are some groups of one, two, and three sixteenths inserted among the larger groups, but the overall effect is a rhythmic acceleration to measure 77, and then a deceleration to measure 91. Figure 15 highlights this rhythmic acceleration, with the number of sixteenth notes in each group given below the staff.

Figure 15: Movement III rhythmic acceleration and deceleration through 16th note groupings

The musical score for Movement III illustrates rhythmic acceleration and deceleration through 16th note groupings. The score is divided into five staves, each containing measures 64-69, 70-75, 76-80, 81-85, and 86-91. Below each staff, the number of sixteenth notes in each group is indicated.

Staff	Measure	Grouping (Sixteenth Notes)
Staff 1 (Measures 64-69)	64	8
	65	16
	66	1
	67	1
	68	2
	69	3
Staff 2 (Measures 70-75)	70	2
	71	3
	72	16
	73	4
	74	1
	75	9
Staff 3 (Measures 76-80)	76	8
	77	13
	78	8
	79	13
	80	2
	81	4
Staff 4 (Measures 81-85)	81	16
	82	3
	83	4
	84	4
	85	3
	86	3
Staff 5 (Measures 86-91)	86	8
	87	3
	88	2
	89	2
	90	1
	91	1

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The pitch content of this section is sequential. While there are various ascending and descending intervals within measures, a clear sequence is formed between measures. The first note in each measure form a pattern of descending thirds, beginning in measure 64 with A in the bottom voice and C in the top voice, and descending by thirds through all seven notes of the referential collection and arriving back at A and C in measure 91. Figure 16 displays the starting pitch of each measure. The pattern of alternating thirds can be observed, gradually descending an octave throughout this section. This larger tertian pattern is a framework for the mostly open intervals within each measure; a dynamic context for an expression of the static character.

Figure 16: Movement III pattern of thirds, taken from starting pitch of each measure

Measure	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Pitch level	C	A	C	A	A	F#	A	-	F#	D	F#	D	D	B	D	B
	A	F#	A	F#	F#	D	F#	-	D	B	D	B	B	G#	B	G#

Measure	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
Pitch level	B	G#	B	G#	G#	E	-	E	E	C	E	C	C	A	C	A
	G#	E	G#	E	E	C	-	C	C	A	C	A	A	F#	A	F#

As this sequence unfolds in the piano and percussion family, the woodwinds recapitulate material from the exposition of the first movement. This restatement occurs on the same pitch level as the first movement, but in the context of the current referential collection: A, B, C, D, E, F#, and G#. This material is introduced with a gently pulsing E drone starting in measures 68–69, and adumbrative concitato material in measures 70–71. Then, starting in measure 72, a full eighteen measure statement of the thesis-arsis material is recapitulated, like measures 9–26 of the first movement. As in Movement I, this development culminates in a simultaneous hexachordal statement of stepwise concitato material in measures 90 and 91. Here, the alternating harmonies are members of set class 6-22 (excluding D) and 5-28 (excluding E and B). This culmination coincides with the arrival of the percussion sequence back to A and C in eighth notes. This sonata section concludes with a repeated sequence of sixteenth notes stated by the woodwind and percussion in measures 92–95.

A descending sequence of woodwind triplet echoes bookends the end of the sonata material in measures 96–101, much like the denouement leading into the section in measures 57–63. However, this section is harmonically simpler, comprising tertian trichords rather than full statements of the referential collection. In this transitory section, the final pitch transformation takes place, adding C# to the referential collection. This referential collection is the final tonal development of the composition, comprising A, B, C#, D, E, F#, and G#, a statement of 7-35. Like before, this diatonic collection represents the tonal goal of the movement. Unlike the first two movements, here the focus on A orients this statement of 7-35 to the same intervallic structure as the major mode. Thus, in

the context of *Luminosity*, this is a more ideal statement of this set-class, and therefore also represents the tonal goal of the entire composition, a tritone away from the opening Eb of the first movement.

Cycles three and four are stated in the context of this new referential collection. These proceed much as the first two cycles did. Cycle three culminates in a harmonic statement of 5-20 (excluding E and B), leading to the final cycle in measure 122. As before, this cycle adds woodwind triplet echo material, building a full statement of the new referential collection in layers. The fourth cycle ends with a full statement of 7-35 in woodwinds and brass, culminating in the hexachord 6-33 (excluding C#) in measures 138–141. The composition closes with an altered statement of the recapitulation material from Movement I.

From measure 142 to 149, the stepwise concitato material in woodwinds and piano describes a diatonic scale starting on D, ascending by a step every measure. Under this energetic ascent, the brass states two harmonic progressions, both leading to A major triads. In measures 149–155, the brass restate the harmonic progressions, with some of the dissonances resolved into triads. Examples 11 and 12 show a condensed notation of these brass statements. In both examples, the lower voice moves by skip and step, while all the upper voices move by step. The stepwise voice leading in these statements provides the progressive feeling of a cadential motion towards the final harmony. In both examples, the harmonic goal is an A major triad. As seen in example 12, the first half of the second statement contains more triadic harmony than the first half of the first brass statement.

Example 11: Movement III first brass statement, accompanying woodwind scalar ascent

142 143 144 145 146 147 148

ppp < mp > ppp pp < mf > pp p < f > pp ppp < mp > ppp pp < mf > pp p < f > p

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Example 12: Movement III second brass statement, with triadic first progression

149 150 151 152 153 154 155 156

ppp < mp > ppp pp < mf > pp p < f > pp ppp < mp > ppp pp < mf > pp p < f >

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As the first progression reaches a culmination, the woodwinds and piano react with an ascending and descending interlocking broken scale figuration, spanning a sixth. The second progression culminates in an A major triad with an A in the top voice, triggering a broken scale ascending a tenth, leading in to a dramatic dialogue between woodwinds, brass, and drums.

Three summative statements drive to a dramatic conclusion. The brass progresses from a layered statement of set-class 6-Z25 (excluding E) in measure 165, to a series of full harmonic statements of 7-35 alternating with powerful drum hits in the following measure. The woodwinds describe a series of seven note scalar statements of 7-35 in parallel triads, accompanied by a building tremolo in the drums. The woodwind scales culminate in a sustained tetrachord in measure 169, comprising G#, C#, F#, and E, a member of set class 4-22 (0247). Coinciding with this sonority, the brass reiterate their full harmonic statements of 7-35. Two powerful drum hits at the end of measure 169 lead in to the convergence of all parts on a single sonorously scored A major triad.

Conclusion

On hearing the attainment of these culminating musical goals, the listener appreciates them in the context of the long development and accumulation of musical material in this movement, and throughout the concerto. However, the achievement of these goals is not like a key, unlocking a hitherto mysterious process. Rather, the musical telos are a formal requirement for the preceding process. The musical narrative preparing

these goals prepares the listener for their attainment. The development of the culminating goals is comprehended, and their achievement is confirmational, closing the narrative.

Throughout the composition, the clear focus on these expressive goals demonstrate Schwantner's unique compositional voice. However, the nature of the expression in *Luminosity* is more abstract than many of his earlier works, such as the poetically-inspired trio of his early wind compositions. Chapter 5 will contextualize *Luminosity* in his works for winds, demonstrating the consistent focus on musical expression and the evolving expressive nature of this cycle.

Chapter 5: Context

Luminosity: Concerto for Wind Orchestra is Joseph Schwantner's fifth composition for wind band. While similar techniques and expressive elements apply throughout this body of work, these compositions can be divided into two groups. The early trio *...and the mountains rising nowhere* (1977), *From a Dark Millennium* (1980), and *In evening's stillness...* (1996) share poetic inspirations and a sound concept largely driven by textures and orchestrational colors. *Recoil* (2004) and *Luminosity: Concerto for Wind Orchestra* (2014) also feature the use of texture and color as important elements, but these later compositions represent a move towards a more efficient use of reduced musical material to achieve a simpler and more unified sound.

...and the mountains rising nowhere

...and the mountains rising nowhere is Schwantner's first composition for wind band, composed through a grant from the National Endowment for the Arts. As described in Chapter 2, this work was inspired by a poem written by Carol Adler, which is featured on the cover of the score:

arioso bells
sepia
moon-beams
an afternoon sun blanked by rain
and the mountains rising nowhere
the sound returns
*the sound and the silence chimes*¹¹⁰

¹¹⁰ Joseph Schwantner, *...and the mountains rising nowhere* (New York: Schott Helicon Music Co., 1977).

The relation of aural and visual imagery in this poem can provide useful insight into Schwantner's creative process. In the poem, the visual and spatial imagery is relatively static, while the sound imagery is dynamic: the sound "returns" and the sound and silence "chimes." The composer does not consider his use of poetry in *...and the mountains rising nowhere* as directly programmatic.¹¹¹ However, the contrasting elements of aural stasis and dynamic drive in the composition are reminiscent of the poetic imagery.

...and the mountains rising nowhere was commissioned by the Eastman Wind Ensemble through a grant from the National Endowment for the Arts. However unlike many compositions for the wind ensemble medium, there are no parts for bass clarinet, saxophone, or euphonium. This orchestration, resembling an expanded orchestral wind section, was part of a strategy for creating a new sound for wind band.¹¹² Schwantner describes his motivation for avoiding "typical band sounds." He writes:

When I first started to write for wind ensemble there wasn't much to look at other than Hindemith and Schoenberg. My whole band experience in the public schools had been mostly third-rate music and transcriptions. I grew up with a certain envy of my colleagues who were in orchestra: they got great music to play and we got bad transcriptions and this third-rate "educational" music. You'll notice in *...and the mountains rising nowhere* that I go a long way to avoid typical band sounds. I had to overcome my school experience.¹¹³

In addition to foregoing the use of some typical band instruments, *...and the mountains rising nowhere* achieves a new orchestration through use of amplified piano and an expanded percussion section. These instrumentation concepts are used in creative

¹¹¹ Popejoy, 16.

¹¹² Pilato, 12.

¹¹³ Higbee, 134.

combinations that greatly expand the timbral palette of the wind band. A characteristic example is the technique of using piano or percussion to articulate pitches that are then sustained by winds. Jeffery Briggs describes this technique, which he calls “trailing,” as applied in measure 27 of *...and the mountains rising nowhere*:

A rising gesture in the piano is divided among six flutes and clarinet so that every note of the gesture is played and sustained. These wind parts slur their fingers while the piano accents each pitch. The result is a gesture initiated by the piano, but sustained by the winds. As the piano timbre decays the wind timbre remains.¹¹⁴

This combination of percussively articulated and sustained qualities has been connected with Schwantner’s guitar-inspired sound concept.¹¹⁵ Other examples of this sustained sound concept include extensive use of the “laissez vibrer” indication in percussion and piano parts in *...and the mountains rising nowhere*. It has been calculated that the piano part includes use of the sustain pedal or instructions to let the note “ring” in over 80% of the measures.¹¹⁶

Another factor in the creation of unique sounds is the unique concept of compositional pacing in *...and the mountains rising nowhere*. This concept is often used in conjunction with sustained textures to create a suspended, timeless aesthetic. This particular aesthetic can be heard in the beginning and ending sections, both of which feature musical events that seem to occur in isolation rather than progressing

¹¹⁴ Briggs, 70.

¹¹⁵ Pilato, 14.

¹¹⁶ James Wilson Taylor, “The Wind Ensemble Trilogy of Joseph Schwantner: An Examination of the Close Musical Relationship Between ‘And the Mountains Rising Nowhere,’ ‘From a Dark Millennium,’ and ‘In Evening’s Stillness...’ With an Approach to Programming the Works as a Trilogy” (DMA diss., University of South Carolina, 2015), 35.

teleologically. In these sections, the meter is controlled by a specified duration of seconds in what is called time-framed notation. The effect of time-framed notation in these sections is the separation of discrete musical events followed by a ringing sustain for the given number of seconds. In this way, musical time feels suspended to the listener. This non-teleological aesthetic defines much of the composition, although there are several sections that build momentum, especially leading into measure 119.

New sounds are also created through an expanded role for individual musicians in several wind works, beginning with *...and the mountains rising nowhere*. In this piece, wind players are asked to sing, whistle, and play percussion instruments and glass crystals, often creating a suspended atmospheric effect. Schwantner describes the genesis of this role expansion in an interview with Jeffrey Renshaw:

...and the mountains rising nowhere was completed at a time when I was writing chamber music for such groups as the Contemporary Chamber Ensemble, the Boston Musica Viva, the Twentieth Century Consort, and the New York New Music Ensemble. I wanted to explore ways small ensembles produce sound by giving individual musicians more to do. For example, a clarinetist might play other instruments such as crotales, triangles, or crystal goblets. This idea of augmenting performers' roles led to a similar strategy with concert band in which musicians sing and whistle. The amplified piano and large percussion section are treated equally with winds and brass and state many of the work's primary elements.¹¹⁷

In addition to the compositional and orchestrational innovations in *...and the mountains rising nowhere*, there are several unique notational elements. The most noticeable departure from standard notation is Schwantner's "open scoring" layout, in which staves are only used for instruments currently playing, with resting instruments

¹¹⁷ Renshaw, "Schwantner on Composition," *The Instrumentalist*, 45 (May, 1991): 14.

appearing as blank spaces. In an email correspondence with Nikk Pilato, Schwantner said “This type of scoring is not used for the sake of difficulty or non-conformity, but rather for the sake of efficiency.”¹¹⁸ Schwantner has also indicated that this layout positively affects the performance of his music:

George Crumb always drew his scores by hand. His publisher, C.F. Peters, eventually asked him if they could take charge of the copying. “Absolutely not,” he said. He felt that how the music looked was a key part of the art. He once said to me “Music that looks beautiful often sounds beautiful.” I like the look of the open score. Eventually, though, it began to take longer to copy a piece than to compose it! I would still use open scoring today if I could, but in this day, with computers and copyists, it’s a matter of practicality.¹¹⁹

Other unique notational elements include micro notation and graphic time signatures. Micro notation is a method of metric organization “in which the primary beat is given over to rhythmic values smaller than the quarter note.”¹²⁰ This method is often used in conjunction with graphic time signatures, in which the denominator is represented by a note value rather than a number. These unique mensural notation methods result in an increased use of thirty-second and sixty-fourth notes.

Finally, *...and the mountains rising nowhere* represents a milestone in Schwantner’s career in its formation of tonal sounds in an atonal context. As described in Chapter 2, tonal focus is achieved through the emphasis of particular pitch-classes, usually through sustain and registral emphasis. In this first work for winds, Schwantner uses pedal tones to focus on the tonal areas of Ab and B, and further emphasizes these

¹¹⁸ Pilato, 10.

¹¹⁹ Higbee, 134-136.

¹²⁰ Taylor, 41.

itches in motivic material throughout the composition.¹²¹ As described in Chapter 2, a tonal sound is also achieved in *...and the mountains rising nowhere* through the use of set-classes with tonal features, including the diatonic set class, 7-35. Subsequent wind works make progressively more use of tonal elements, culminating with *Luminosity*, in which Schwantner uses diatonic material in each movement as a primary compositional motivation.

From a Dark Millennium

The elements of instrumentation, compositional techniques, pacing, and the expansion of players' roles created a unique soundscape in *...and the mountains rising nowhere*. Many of these elements are also utilized in his next work for winds. *From a Dark Millennium* was commissioned by the Mid-America Band Directors Association in 1980. The premier performance took place the following year, by the University of Northern Illinois Wind Ensemble. *From a Dark Millennium* is actually taken from *Music of Amber*, an earlier chamber composition by Schwantner. This work uses the same orchestral winds instrumentation as *...and the mountains rising nowhere*, but with fewer flute, oboe, bassoon, trumpet, and trombone parts. And while *From a Dark Millennium* calls for less percussion than the earlier work, Schwantner retains the amplified piano and adds an amplified celesta part. Players are again asked to whistle and sing, however there are no glass crystal parts. Other common elements between these two works for winds include an open score layout, a single-movement construction, and a poetic inspiration.

¹²¹ Renshaw, "Schwantner's First Work for Wind Ensemble," 35.

Unlike the Carol Adler poem that inspired ...*and the mountains rising nowhere*, *From a Dark Millennium* was inspired by an original poem, entitled “Sanctuary:”

*Sanctuary. . .
deep forests
a play of shadows,
most ancient murmurings
from a dark millennium
the trembling fragrance
of the music of amber. . .*

The title of the original chamber work is taken from the last line, and the title from the specific movement Schwantner reworked for winds is taken from the opening line. Like Carol Adler’s “Arioso,” this poem combines multi-sensory imagery in creating an evocative mood. Schwantner wrote of the relationship between this poem and the composition: “The mysterious and shadowy atmosphere of *From a Dark Millennium* springs from images drawn from a brief original poem that forms the poetic backdrop for the work. The poem helped to stimulate, provoke and enhance the flow of my musical ideas.”¹²²

Like ...*and the mountains rising nowhere*, this second work uses pedal tones to emphasize local pitch-class centers.¹²³ In this piece, Schwantner also uses octatonic referential collections melodically and in creating tertian harmonies, giving these sections a tonal sound. From this perspective, *From a Dark Millennium* can be seen as an incremental step towards a more tonal sound among Schwantner’s wind works.

¹²² Popejoy, 21.

¹²³ Ibid., 68.

In evening's stillness...

While Schwantner's first two works for winds were written within three years, it would be sixteen before he wrote the third. Commissioned by the Illinois College Band Directors Association, *In evening's stillness...* was written in 1996. It was premiered by an intercollegiate ensemble conducted by Donald Hunsberger at the Midwest Music Educators National Conference in Peoria, Illinois. *In evening's stillness...* shares a single movement construction, orchestral winds instrumentation, and poetic inspiration with Schwantner's first two works for winds, but are some notable differences. This is the first wind work to use a standard score layout rather than open scoring. Nikk Pilato attributes this partly to time constraints due to Schwantner's increasing workload at the time.¹²⁴ Another change is the inclusion of a specific stage setup for *In evening's stillness...*, a trend that will continue in his next two works for winds. The setup instructions demonstrate Schwantner's awareness of the total experience of a performance, and came about partly through his close relationships with performing ensembles. Schwantner explained that several elements, such as seating arrangements, were added during the rehearsals for the premier: "I came to the rehearsals with ideas about seating arrangements and such, but a lot came together during the three days of rehearsals."¹²⁵

In evening's stillness... is the first of Schwantner's wind works in which players are not asked to sing or whistle, and in which there is no unusual mensural notation. A more tonal sound is achieved in this piece due to a simplification of musical materials,

¹²⁴ Pilato, 55.

¹²⁵ Higbee, 144.

including use of the diatonic set-class (7-35). Because of these elements, Pilato has suggested that “From a standpoint of accessibility and practicality, it is easier to introduce an ensemble to this work than to ...*and the mountains rising nowhere* or *From a Dark Millennium*.”¹²⁶

Like *From a Dark Millennium*, *In evening's stillness*... uses an original poem as an inspirational resource:

*In evening's stillness.
a gentle breeze,
distant thunder
encircles the silence*

Contrasting elements of stasis and dynamism articulated through visual and aural imagery can be observed in this poem, similar to those in Carol Adler's “Arioso.” James Taylor describes his connection of these poetic elements to musical events in the composition:

In pairing “stillness” with a “gentle breeze” and “distant thunder” with “silence,” Schwantner sets the stage for the main thematic element of the work in which the keyboards and woodwinds float effortlessly against the ever more insistent and demanding brass section.¹²⁷

With the completion *In evening's stillness*..., Schwantner recognized the unity of conception, expression, and construction among his early works for winds. While these three compositions were not originally conceived as a unit, the composer retrospectively described the possibility of their combination into a single poetically-inspired trilogy:

...the piece is the third of three works I have written for winds, brass, percussion, and piano. It forms the middle movement of a trilogy of pieces that includes ...*and*

¹²⁶ Ibid., 56.

¹²⁷ Taylor, 21.

the mountains rising nowhere and *From a Dark Millennium*. In all three works, the piano is responsible for presenting the primary melodic, gestural, harmonic, and sonoric elements that unfold in the music. While each work is self-contained, I always envisioned the possibility that they could be combined to form a larger and more expansive three movement formal design.¹²⁸

The possibility and practical consideration of performing these poetically-inspired early wind works as a trilogy was the focus of James Taylor's 2015 dissertation. Taylor suggested that in concurrence with the composer's vision, these works could indeed form a single musical unit based on specific criteria. These include a similarity of poetic inspiration that "lends a title and hint at programmatic intentions for each."¹²⁹ A more practical criterion is the similarity of instrumentation among the three works: an expanded orchestral wind section in the exclusion of saxophone and euphonium. Taylor also suggests an artistic unity among these works in their arc of development, describing "a general progression from more abstract and atonal content, through ambiguous tonality using an octatonic symmetrical collection, and to the almost tonal landscape provided by the seven note set closely related to the diatonic scale."¹³⁰ There are other similarities noted by Taylor, but these do not necessarily contribute to his case for their unification. These include the expanded performer responsibilities in the first two works, the significant importance and difficulty of the piano part in all three works, and the obscuring of meter in all three works. These similarities are present, but do not by themselves suggest a combined performance of these works. Conversely, these factors can be seen as practical limitations to playing all three works in a single concert. The arc

¹²⁸ Popejoy, 7.

¹²⁹ Taylor, 48.

¹³⁰ Ibid., 49.

of development from “abstract atonal content” to the relative simplicity of musical materials described by Taylor only applies if the works are performed in chronological order: ...*and the mountains rising nowhere* (1977) as the first movement, *From a Dark Millennium* (1980) as the second, and *In evening’s stillness...* (1996) the third. However, there is some ambiguity in the appropriate order.

In an email correspondence with Taylor, Schwantner stated that his preference “is to have *In evening’s stillness...* performed as the middle movement” of the trilogy.¹³¹ However, in corresponding with Nikk Pilato, Schwantner conceded that he “has received enough feedback from conductors who feel that it serves better as the final movement to convince him that the order should be left to each individual conductor.”¹³² Whether or not these works are performed together or separately, they remain an artistically unified trio of poetically-inspired compositions for winds. The trend of progressively more unified musical materials and relative simplicity of construction within this trio is extended to Schwantner’s next two compositions for winds. *Recoil* (2004), and *Luminosity: Concerto for Wind Orchestra* (2014) can both be viewed as a simplification of materials and construction compared to his earlier works. However, the apparent simplicity of these later works represents an economy of organization rather than a lack of sophistication.

¹³¹ Ibid., 54.

¹³² Pilato, 56.

Recoil

Recoil was commissioned by the University of Connecticut and the Beverly Sackler New Music Foundation. The premier performance took place on November 3, 2004 by the University of Connecticut Wind Ensemble conducted by Jeffrey Renshaw, at the Isaac Stern Auditorium of Carnegie Hall in New York. *Recoil* is the first wind composition by Schwantner to use saxophone and euphonium parts. It is also the first without any use of unconventional notation, and uses a standard score format like *In evening's stillness....* Players are asked to sing in this work, and the vocal parts are somewhat more active than in the first two wind works.

As described in Chapter 2, the inspiration for *Recoil* is not poetic, but a scientific understanding of phenomena in the physical world, specifically the recoiling motion exhibited by elastic matter like a spring. This physical inspiration translates to energetic cellular motives that are repeated and developed throughout the twelve-minute composition. Nikk Pilato identifies four basic motives, that are largely rhythmic in nature. The pitch material of the motives and much of the melodic and harmonic material in the composition derives from various transpositions of a hexachord, 6-Z19 (013478).¹³³

The physical energy of the inspiration of this composition translates to almost continual motion, with only a brief section of repose in measures 238–268. Due to the high percentage of rhythmically active measures, *Recoil* can be seen to anchor the dynamic end of a spectrum among Schwantner's five works for winds, with ...and the

¹³³ Ibid., 68-70.

mountains rising nowhere anchoring the static end. The polarity of active teleological drive and stasis are important elements of Schwantner's compositional style. Musical phrases, sections, and entire compositions can be described in relationship to these poles, or as a transition from one character to the other. Schwantner's preoccupation with the creation and development of instrumental colors, as described in Chapter 2, are also largely articulated in terms of either static, seemingly timeless sustained sections, or driving sections that can be felt progressing towards a musical telos. Many elements of *Luminosity* have been described in these terms in Chapter 3.

Luminosity: Concerto for Wind Orchestra

Like *Recoil*, *Luminosity* utilizes a standard score layout and no unconventional notation. This work also includes saxophone and euphonium parts, as well as amplified piano and an expanded percussion section. The players are not asked to sing, whistle, or play crystal goblets. In these respects, *Luminosity* can be seen as the culmination of a gradual arc of simplification throughout Schwantner's five works for winds. A gradually more tonal sound can also be observed in the later wind works, especially in *In the evening's stillness...* and *Luminosity*. In these two compositions, seven-note referential areas are utilized, which controls the tonal materials for a section. *Luminosity* in particular emphasizes a tonal sound in the gradual development of major triads and major-mode diatonic statements throughout the composition.

The creation of new sound worlds for wind band can be seen as the ultimate motivation for all five compositions. Schwantner describes his preoccupation with color

as a primary compositional motivation. Many of the innovative musical and scoring techniques in his early works can be seen as creative coloristic devices. With his later works, Schwantner utilizes less nontraditional techniques, but achieves a brilliant color palette through sophisticated methods of orchestrational and tonal organization. Perhaps the most fully realized examples of this can be heard in *Luminosity*.

In this composition, Schwantner uses the major mode and major triad as ideals of sonic color. In this context, the accumulated musical goals achieved throughout the composition are intermediate steps towards these ideals. The harmonic hexachords of the exposition and recapitulation of Movement I are balanced tonal accumulations of referential collections 7-34, and 7-35 respectively. The subsequent scalar statements are fully realized accumulations of these collections. Movement II proceeds by gradual aggregation of referential collections and culminating structural hexachords to achieve a similar transformation from 7-34 into 7-35. Here, the full realization of the 7-35 referential area is marked by a dense saturation of this referential collection in measures 90–122. Movement III gradually develops the ultimate statement of the major mode ideal through several intermediate collections. Through cyclic reiterations of a brass chorale and material from the exposition of Movement I, three referential collections are used before the final goal. The opening collection comprises A, B, C, D, E, F, and G in a version of 7-35 that is focused on A through pedal tones, and therefore resembles the minor mode. Then the F is altered to F# in cycle 2, with a continued focus on A in a collection resembling the dorian mode. Then the G is altered to G#, changing the collection to a version of 7-34. Finally, the C is altered to C# to form the ultimate

collection comprising A, B, C#, D, E, F#, and G#, still focusing on A through pedal tones and phrasal emphasis. Once this major mode collection is achieved, material from the recapitulation of Movement I drives to the final A major triad (see Figure 12 in Chapter 3). Based on Schwantner's description of this composition quoted in Chapter 3, these intermediate and ultimate goals are as much about the progression through various shades of color as tonal transformation. From this perspective, *Luminosity* can be heard as gradual progress through kaleidoscopic color changes leading to the final goal.

Conclusion

Schwantner's early musical experiences provided a foundation for a career of creative musical expression. That expression retained its creativity, but was given a framework of technical sophistication through his formal study in college. Schwantner continued to develop his compositional technique, but always in the context of a very human musical expression. Schwantner's early compositions can be viewed as a gradual formation of his mature style.

Schwantner's wind compositions hold an important place in his output. Beginning with the solidification of Schwantner's mature style in *...and the mountains rising nowhere* and culminating with the exaltation of tonality in *Luminosity: Concerto for Wind Orchestra*, these five compositions represent a unique expression of twentieth- and twenty-first century American music. Within this body of works for winds, Schwantner has developed a sensual, intuitively comprehensible style founded on procedural rigor and structural integration. The application of sophisticated compositional techniques in

the service of human expression in these compositions mark them as a valuable contribution to wind band repertoire, and to modern American art music.

Luminosity represents an ideal balance in this conception of Schwantner's music. Almost every aspect of the three movements is in direct service of the gradual formation of tonal goals. These goals can be clearly understood by the listener, and represent Schwantner's inspiration of musical luminosity: the sound and feeling of diatonic music and the major triad.

Appendix A: Consortium Information

Commissioned by the CBDNA (*College Band Director's National Association*)
with support by members of a consortia organized by Dr. Nikk Pilato:

Arkansas State University (*Tim Oliver*)
Augustana College (*James Lambrecht*)
California State University, Stanislaus (*Stuart Sims*)
Cincinnati College Conservatory (*Glenn Price*)
DePauw University (*Craig Paré*)
Eastern Kentucky University (*David Clemmer*)
Emory University (*Nikk Pilato*)
Florida Gulf Coast University (*Rod Chesnutt*)
Florida State University (*Richard Clary*)
Georgia Southern University (*Robert Dunham*)
Kansas State University (*Frank Tracz*)
Kennesaw State University (*David Kehler*)
Lone Star Wind Orchestra (*Eugene Corporon*)
Mt. San Antonio College (*John Burdett*)
New World School of the Arts (*Brent Mounger*)
Ridgewood Concert Band (*Chris Wilhjelm*)
St. Olaf College (*Timothy Mahr*)
Stephen F. Austin State University (*David Campo*)
Tennessee Tech University (*Joseph Hermann*)
Texas A&M Kingsville (*Scott Jones*)
Texas Tech University (*Sarah McKoin*)
Troy University (*Mark Walker*)
University of British Columbia (*Robert Taylor*)
University of Illinois (*Linda Moorhouse*)
University of Illinois-Chicago (*Jose Riojas*)
University of Montana (*James Smart*)
University of South Carolina (*Scott Weiss*)
University of Southern Mississippi (*Catherine Rand*)
University of Texas (*Jerry Junkin*)
University of Texas Pan-American (*Saul Torres*)
University of Washington (*Tim Salzman*)
University of West Georgia (*Josh Byrd*)
University of Wisconsin-Milwaukee (*John Climer*)

Appendix B: Percussion Instrumentation

Percussion 1:

crotales, *(2-octave set)*
marimba *(5-octave) (amplified- share with percussion 2)*
bongos, timbales, small tam-tam, small suspended cymbal
brake drum, stainless steel mixing bowl *(Tovolo brand)*
mark tree, wind chimes, 2 small suspended triangles
wood block

Percussion 2:

marimba *(5-octave) (amplified- share with percussion 1)*
vibraphone *(motor off sempre)*
4 tom-toms
medium tam-tam, medium suspended cymbal
brake drum, stainless steel mixing bowl *(Tovolo brand)*
mark tree, wind chimes, 2 medium suspended triangles
wood block

Percussion 3:

xylophone, tubular bells
concert bass drum, 20" by 20" tom, 2 conga drums
large tam-tam, large suspended cymbal
brake drum, stainless steel mixing bowl *(Tovolo brand)*
2 large suspended triangles
wood block

Appendix C: Email Correspondence

From: achybows@umail.iu.edu
Sent: Thu, Apr 13, 2017 at 4:49 PM
To: nikk.Pilato@indstate.edu
Subject: Luminosity Consortium Information

Dr. Pilato,

My name is Andrew Chybowski and I am completing my Doctor of Music degree from the Indiana University Jacobs School of Music. As part of the degree, I am working on a document focusing on Joseph Schwantner's *Luminosity: Concerto for Wind Orchestra*.

I am currently gathering information about the commissioning of the work by the CBDNA and the consortium you organized. Would you be willing to share information about this consortium including commissioning parameters, specifics about the process, or other pertinent data? Any information would be helpful.

Thank you very much for your time!

Andrew D. Chybowski

From: nikk.Pilato@indstate.edu
Sent: Thu, Apr 13, 2017 at 5:39 PM
To: achybows@umail.iu.edu

Hi Andrew,

Of course...in fact, I am in the middle of writing the entry for "Luminosity" in the next "Teaching Music Through Performance..." book, so this is actually serendipitous. Please, send any questions you may have. I may not get to them right away, but with school winding down over the next few weeks, I will get answers to your sooner rather than later.

+++++

Dr. Nikk Pilato

Associate Director of Bands Indiana State University www.sycamorebands.org
812-237-2790

From: achybows@umail.iu.edu
Sent: Wed, Apr 19, 2017 at 9:37 AM
To: nikk.Pilato@indstate.edu

Thank you. Here are the questions I have at this stage:

- 1) Do you know of any parameters of the commission? Was there a time limit or specific instrumentation (inclusion of saxophones and euphonium)? Or did Dr. Schwantner have a blank slate?
- 2) I have found several possible errors in the score, have you received any errata in preparing your "Teaching Music" chapter?
- 3) You may not wish me to include this in my document, but have you received any information about the composing of Luminosity from Dr. Schwantner that you would feel comfortable sharing? I am basically done with a musical analysis, but there are a few burning questions left (like the nature of the palendrome sequence in the third movement!). I don't mean to mine for information, but if you have and would like to share any information that couldn't be derived from the score alone, I would be grateful.

In any case, I very much appreciate you taking the time to correspond. Your dissertation has been a valuable reference, and I highly respect your continued work concerning this great composer!

-Andrew

From: nikk.Pilato@indstate.edu
Sent: Wed, Apr 19, 2017 at 10:21 AM
To: achybows@umail.iu.edu

Andrew -

- > 1) Do you know of any parameters of the commission? Was there a time
- > limit or specific instrumentation (inclusion of saxophones and
- > euphonium)? Or did Dr. Schwantner have a blank slate?

This whole thing got started after a performance of mine at CSU-Long Beach of his “In evening’s stillness...” I began reflecting on how it was a shame that this unique voice in our world had only written four works specifically for winds, and my little inner demon essentially said “Well...do something about it.” So, I emailed him and asked him if he was interested in writing something substantial for winds, longer than the typical 11-12 minute works he had engaged in before. As luck would have it, he had time coming up on his compositional schedule, and he agreed.

From the start, I wanted him to write for saxes and euphoniums (being a euphonium player myself), and he readily agreed. At one point, I thought about asking him to write something a little easier, as to make the consortium and resultant composition more attractive to fine high school ensembles - but somehow, it seemed that asking him to do that would be asking him to compromise his unique writing style, and I changed my mind, telling him: Write whatever you’d like, and people will play it.

- > 2) I have found several possible errors in the score, have you
- > received any errata in preparing your "Teaching Music" chapter?

There are several errors in both score and parts, depending on what edition of the score you are looking at. I have a list of errata I discovered while preparing the work for the premiere, and many of these were corrected in the subsequent score that went to the publisher. However, there are still some errors in that score, from what I have been told (I only have the original score from Schott). There are no plans to include errata in the Teaching Music article. You’ve reminded me, however, that I should go ahead and put the list on the Wind Repertory Project page for “Luminosity,” which I will do later.

- > 3) You may not wish me to include this in my document, but have you
- > received any information about the composing of Luminosity from Dr.
- > Schwantner that you would feel comfortable sharing? I am basically
- > done with a musical analysis, but there are a few burning questions
- > left (like the nature of the palendrome sequence in the third

> movement!). I don't mean to mine for information, but if you have and
> would like to share any information that couldn't be derived from the
> score alone, I would be grateful.

We did talk a bit about the work leading up to the premiere. It helped that I had already had a relationship with Joe because of my dissertation, and even before that, dating back to my high school teaching days. However, with some aspects, I only chalked it up to “Joe being Joe.” This was particular in places that used what he calls “shared monody,” as well as the prodigious percussion writing. There are some “Schwantnerisms” that peek through, but certainly there are also some new sounds from Joe on this work, for which I am extremely grateful.

I assume that for the palindrome sequence you are discussing starts at Letter C, or are you talking about something else? Unfortunately, we did not specifically discuss that section. When Joe finally visited for the premiere, we were still struggling with some aspects of the work (Emory does not have a true music major, per se, so while the players are very talented, their focus is more on stuff like law, medicine, journalism, business, etc.) that resulted in spending more time on the more technical sections, leaving little room for talking about the philosophy aspects too much.

He did speak with my students about some aspects of this, however briefly, at our first meeting. There is a video on YouTube:

<https://www.youtube.com/watch?v=jlSzdFMaFo8>

I'd love to see your analysis of the work when you are finished. I am sorry if you mentioned this before - is this a dissertation, or is this for a class or some other work?

+++++

Dr. Nikk Pilato
Associate Director of Bands
Indiana State University
www.sycamorebands.org
812-237-2790

From: achybows@umail.iu.edu
Sent: Wed, Apr 19, 2017 at 10:37 AM
To: nikk.Pilato@indstate.edu

Dr. Pilato,

Thank you so much for sharing this information. This is for a dissertation, which is (hopefully) nearing completion. I believe I have a fairly illuminating analysis of the work, which I would be happy to share with you soon. If you wouldn't mind, I would like to use some of the text from your answer to the first question in an informational section about the work. As far as the "Schwantnerisms," I agree that some things in this work don't seem to have a tidy explanation other than compositional artistry. And regarding letter C in the third movement, he does give you just enough of a pattern to put you on the scent, and I have a suspicion this material relates to the trichords that start all the way back in measure 10 of the first movement. The world may never know. Anyway, thank you again for your help.

-Andrew

From: nikk.Pilato@indstate.edu
Sent: Wed, Apr 19, 2017 at 10:48 AM
To: achybows@umail.iu.edu

I think that Joe very much lives in both worlds: He sometimes creates these very subtle musical “inside jokes” that he delights in people finding...but sometimes, he also just writes something because he thinks it looks or sounds “cool,” and when people try to find a deeper hidden meaning, he goes along with it, sagely nodding his head as if there was some air of mystery there - whether there is or not! He is a great guy, and a great composer, and I am glad that I’ve had the opportunity to work with him on three major projects. It’s humbling.

I look forward to reading your dissertation when it is finished.

One thing I can impart that just popped into my head is the section in the first movement where he has the brass stand up (not sure if that direction made it into the revised score). He came up with that on the fly at the dress rehearsal. It was a way to isolate the brass chorale, starting with the horns and euphoniums, and then working its way to everyone else (though I notice on the UT Wind Ensemble video on youtube, the brass all stand up at the same time, which is different than what we did). It was amazing to me to have him so excited to toss us a new wrinkle the night before the concert, it was so off the cuff and it made an impression on me - we forget sometimes that music can be a visual medium as well, but Joe doesn’t forget these things. It’s evident, of course, even in the setup of the ensemble for this piece (and “In evening’s stillness...”).

Pass my regards on to the band faculty at IU and to Frank Diaz, who was an undergrad at FSU at the same time I was. Best of luck on the dissertation and the degree completion!

++++++
Dr. Nikk Pilato
Associate Director of Bands
Indiana State University
www.sycamorebands.org
[812-237-2790](tel:812-237-2790)

Bibliography

- "About the Fellowship." *John Simon Guggenheim Memorial Foundation*. Accessed January 17, 2017. <http://www.gf.org/about>.
- Apel, Willi. *Harvard Dictionary of Music*. 2d ed., rev. and enl. Cambridge: Belknap Press of Harvard University Press, 1979.
- Baker, David. *David Baker's Jazz Pedagogy: A Comprehensive Method of Jazz Education for Teacher and Student*. Van Nuys, CA: Alfred Publishing, 1989.
- "Bisbigliando." *Grove Music Online*. *Oxford Music Online*. Oxford University Press. Accessed April 15, 2017. <http://www.oxfordmusiconline.com.proxyiub.uits.iu.edu/subscriber/article/opr/t114/e810>.
- "BMI Student Composer Awards Rules." BMI Foundation. Accessed January 16, 2017. https://bmifoundation.org/applications/rulesbmi_student_composer_awards_rules.
- Briggs, Jeffery L. "The Recent Music of Joseph Schwantner: Unique and Essential Elements." Doctoral diss., University of Illinois, 1984.
- Burkholder, J. Peter. *All Made of Tunes: Charles Ives and the Uses of Musical Borrowing*. New Haven: Yale University Press, 1995.
- Campbell, Karen. "Meet The Composer: Orchestral Residency Program." *Ovation* 9 (September, 1988): 24-29.
- Chute, James E. "The Reemergence of Tonality in Contemporary Music as Shown in the Works of David Del Tredici, Joseph Schwantner, and John Adams." PhD diss., University of Cincinnati, 1991.
- _____. "Schwantner, Joseph." *Grove Music Online*. *Oxford Music Online*. Oxford University Press. Accessed April 21, 2016. <http://www.oxfordmusiconline.com.proxyiub.uits.iu.edu/subscriber/articlegrove/music/46028>.
- Cone, Edward T. *Musical Form and Musical Performance*. New York: W.W. Norton, 1968.
- Cook, Nicholas. *A Guide to Musical Analysis*. London: Dent, 1987.
- Donato, Anthony. "The American Composer and the Teacher." *American Music Teacher* 6, no. 3 (January-February, 1957): 14-15.

- Edgar, Andrew. "Adorno and Musical Analysis." *The Journal of Aesthetics and Art Criticism* 57, no. 4 (Autumn, 1999): 439-49.
- Ewen, David. *American Composers: A Biographical Dictionary*. New York: G.P. Putnam's Sons, 1982.
- Fang, I-J. "The 1986 National Endowment for the Arts Commission: An Introspective Analysis of Two Marimba Works, 'Reflections on the Nature of Water' by Jacob Druckman and 'Velocities' by Joseph Schwantner, Together with Three Recitals of Selected Works by Keiko Abe, Christopher Deane, Peter Klatzow, Wayne Siegel, Gitta Steiner, and Others." DMA diss., University of North Texas, 2005.
- Folio, Cynthia. "An Analysis and Comparison of Four Compositions by Joseph Schwantner: 'And The Mountains Rising Nowhere'; 'Wild Angels Of The Open Hills'; 'Aftertones Of Infinity'; and 'Sparrows.'" PhD diss., University of Rochester, 1985.
- _____. "The Synthesis of Traditional and Contemporary Elements in Joseph Schwantner's *Sparrows*." *Perspectives of New Music* 24, no. 1 (Autumn - Winter, 1985) 184-196.
- Forte, Allen. *The Structure of Atonal Music*. New Haven: Yale University Press, 1973.
- "Garcia, Russ." *The New Grove Dictionary of Jazz*, 2nd ed.. *Grove Music Online*. Oxford Music Online. Oxford University Press. Accessed January 7, 2017.
<http://www.oxfordmusiconline.com.proxyiub.uits.iu.edu/subscriber/article/grove/music/J163100>.
- Goldman, Jonathan. *The Musical Language of Pierre Boulez: Writings and Compositions*. Cambridge: Cambridge University Press, 2011.
- Gonzalez, Frank. "The Compositional Techniques of Joseph Schwantner through an Analysis of 'From a Dark Millennium.'" M.M. Thesis, The University of Texas at El Paso, 2013.
- Gray, Cecil, *Sibelius*. London: Oxford university press, 1934.
- Hepokoski, James A. *Sibelius, Symphony No. 5*. Cambridge: Cambridge University Press, 1993.
- Higbee, Scott. "Joseph Schwantner." In *A Composer's Insight: Thoughts, Analysis, and Commentary on Contemporary Masterpieces for Wind Band*. Edited by Timothy Salzman, 131-146. Galesville, MD: Meredith Music Publications, 2003.

Hindemith, Paul. *The Craft of Musical Composition*. 4th ed. New York: Schott Music Corp., 1941.

Huovinen, Erkki. *Pitch-Class Constellations: Studies In the Perception of Tonal Centricity*. Turku: Suomen Musiikkitieteellinen Seura, 2002.

Jackson, Timothy L. *Sibelius In the Old and New World: Aspects of His Music, Its Interpretation, and Reception*. Frankfurt am Main: Lang, 2010.

“Joseph Schwantner.” *Composer Website*. Accessed September 29, 2016.
<http://www.schwantner.net>.

Kerman, Joseph. *Write All These Down: Essays On Music*. Berkeley: University of California Press, 1994.

Koblyakov, Lev, *Pierre Boulez: A World of Harmony*. Chur, Switzerland: Harwood Academic Publishers, 1990.

Little, J. R. “Serial, Aleatoric, And Electronic Techniques In American Organ Music Published Between 1960 And 1972.” Doctoral diss., University of Iowa, 1975.

Locke, John R. “A Performance Analysis of Joseph Schwantner’s ‘...and the mountains rising nowhere.’” *Winds Quarterly* 1 (Summer, 1981): 40-45.

“*Luminosity: Concerto for Wind Orchestra*.” *Schott Music*. Accessed April 21, 2017.
<https://en.schott-music.com/shop/luminosity-2.html>.

“*Luminosity: Concerto for Wind Orchestra*.” *The Wind Repertory Project*. Accessed April 21, 2017. http://www.windrep.org/Luminosity:_Concerto_for_Wind_Orchestra.

Mellers, Wilfrid, *The Sonata Principle*. New York: Schocken Books, 1969.

“MacDowell Colony.” *Organization Website*. Accessed December 22, 2016.
<http://www.macdowellcolony.org>.

Pare, Craig T. “An Examination of Innovative Percussion Writing in the Band Music of Four Composers: Vincent Persichetti-‘Symphony for Band;’ Karel Husa-‘Music for Prague 1968;’ Joseph Schwantner-‘and the mountains rising nowhere;’ Michael Colgrass-‘Winds of Nagual.’” Doctoral diss., University of Cincinnati, 1993.

Pilato, Nikk. "A Conductor's Guide to the Wind Music of Joseph Schwanter with a Transcription of the Composer's 'New Morning for the World.'" PhD diss., Florida State University, 2007.

_____. Nikk Pilato email correspondence with the author, April 19, 2017.

Popejoy, James. "From A Dark Millennium Comes the Music of Amber: a Comparative Study of Two Works by Joseph Schwanter." DMA diss., University of North Texas, 2000.

Puffett, Kathryn Bailey. "Webern, Anton." *Grove Music Online*. Oxford Music Online. Oxford University Press. Accessed February 11, 2017.
<http://www.oxfordmusiconline.com.proxyiub.uits.iu.edu/subscriber/article/grove/music/29993>.

Renshaw, Jeffrey. "Joseph Schwanter's 'From a Dark Millennium:' an Interpretive Analysis." *The Instrumentalist* 44 (September, 1989): 22-29, 117-19.

_____. "Schwanter on Composition." *The Instrumentalist*, 45 (May, 1991): 14-17.

_____. "Schwanter's First Work for Wind Ensemble." *The Instrumentalist*, 45 (January, 1991): 30-36, 79.

Rosen, Charles. *Sonata Forms*. Rev. ed. New York: Norton, 1988.

Schuller, Gunther. *The Compleat Conductor*. New York: Oxford University Press, 1997.

Schwanter, Joseph. *...and the mountains rising nowhere*. New York: Schott Helicon Music Co., 1977.

_____. *From a Dark Millennium*. New York: Schott Helicon Music Co., 1981.

_____. *In evening's stillness...* New York: Schott Helicon Music Co., 1996.

_____. *Recoil*. New York: Schott Helicon Music Co., 2004.

_____. *Luminosity: Concerto for Wind Orchestra*. New York: Schott Helicon Music Co., 2014.

Schwanter, Joseph, and Ursula K. Le Guin. *Wild Angels of the Open Hills*. New York: C.F. Peters, 1978.

Straus, Joseph Nathan. *Introduction to Post-Tonal Theory*. Englewood Cliffs, N.J.: Prentice Hall, 1990.

_____. *Twelve-Tone Music In America*. Cambridge, UK: Cambridge University Press, 2009.

Stravinsky, Igor. Arthur Knodel and Ingolf Dahl, trans. *Poetics of Music: In the Form of Six Lessons*. Cambridge: Harvard University Press, 1947.

Tarasti, Eero. *Semiotics of Classical Music: How Mozart, Brahms and Wagner Talk to Us*. Berlin: De Gruyter Mouton, 2012.

Tarasti, Eero. *Signs of Music: A Guide to Musical Semiotics*. Berlin: Mouton de Gruyter, 2002.

Taylor, James Wilson. "The Wind Ensemble Trilogy of Joseph Schwanter: An Examination of the Close Musical Relationship Between 'And the Mountains Rising Nowhere,' 'From a Dark Millennium,' and 'In Evening's Stillness...'" DMA diss., University of South Carolina, 2015.

"List of Music Students by Teacher." *Wikipedia*. Accessed December 23, 2016.
https://en.wikipedia.org/wiki/List_of_music_students_by_teacher:_R_to_S#Joseph_Schwantner.

Zatkalik, Miloš, Milena Medić, and Denis Collins. *Histories and Narratives of Music Analysis*. Newcastle upon Tyne, UK: Cambridge Scholars Publishing, 2013.

Zimmerman, Jack. "Schubert's Mass in A-Flat Major, a 'Door to Another World.'" *CSO Sounds and Stories*. Accessed January 7, 2017. <http://csosoundsandstories.org/schuberts-mass-in-a-flat-major-a-door-to-another-world/>.